(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
25 October 2001 (25.10.2001)

PCT

(10) International Publication Number
WO 01/79556 A2

(51) International Patent Classification[7]: C12Q 1/68

(21) International Application Number: PCT/US01/12132

(22) International Filing Date: 13 April 2001 (13.04.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/197,538 14 April 2000 (14.04.2000) US

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 01/79556 A2

(54) Title: NOVEL GENES, COMPOSITIONS AND METHODS FOR THE IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY OF HUMAN CANCERS

(57) Abstract: The present invention is directed to the identification of markers that can be used to determine whether cancer cells are sensitive or resistant to a therapeutic agent. The present invention is also directed to the identification of therapeutic targets. The invention features a number of "sensitivity markers." These are markers that are expressed in most or all cell lines that are sensitive to treatment with an agent and which are not expressed (or are expressed at a rather low level) in cells that are resistant to treatment with that agent. The invention also features a number of "resistance markers." These are markers that are expressed in most or all cell lines that are resistant to treatment with an agent and which are not expressed (or are expressed at a rather low level) in cells that are sensitive to treatment with that agent.

NOVEL GENES, COMPOSITIONS AND METHODS FOR THE IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY OF HUMAN CANCERS

Related Applications

The present application claims priority to U.S. provisional patent application serial no. 60/197,538, filed on April 14, 2000, which is expressly incorporated by reference.

Background of the Invention

Cancers can be viewed as a breakdown in the communication between tumor cells and their environment, including their normal neighboring cells. Growth-stimulatory and growth-inhibitory signals are routinely exchanged between cells within a tissue. Normally, cells do not divide in the absence of stimulatory signals or in the presence of inhibitory signals. In a cancerous or neoplastic state, a cell acquires the ability to "override" these signals and to proliferate under conditions in which a normal cell would not.

In general, tumor cells must acquire a number of distinct aberrant traits in order to proliferate in an abnormal manner. Reflecting this requirement is the fact that the genomes of certain well-studied tumors carry several different independently altered genes, including activated oncogenes and inactivated tumor suppressor genes. In addition to abnormal cell proliferation, cells must acquire several other traits for tumor progression to occur. For example, early on in tumor progression, cells must evade the host immune system. Further, as tumor mass increases, the tumor must acquire vasculature to supply nourishment and remove metabolic waste. Additionally, cells must acquire an ability to invade adjacent tissue. In many cases cells ultimately acquire the capacity to metastasize to distant sites.

It is apparent that the complex process of tumor development and growth must involve multiple gene products. It is therefore important to define the role of specific genes involved in tumor development and growth and identify those genes and gene products that can serve as targets for the diagnosis, prevention and treatment of cancers.

In the realm of cancer therapy it often happens that a therapeutic agent that is initially effective for a given patient becomes, over time, ineffective or less effective for that patient. The very same therapeutic agent may continue to be effective over a long period of time for a different patient. Further, a therapeutic agent that is effective, at least initially, for some patients can be completely ineffective or even harmful for other patients. Accordingly, it would be useful to identify genes and/or gene products that represent prognostic genes with respect to a given therapeutic agent or class of therapeutic agents. It then may be possible to determine which patients will benefit from particular therapeutic regimen and, importantly, determine when, if ever, the therapeutic regime begins to lose its effectiveness for a given patient. The ability to make such predictions would make it possible to discontinue a therapeutic regime that has lost its effectiveness well before its loss of effectiveness becomes apparent by conventional measures.

Summary of the Invention

The present invention is directed to the identification of markers that can be used to determine the sensitivity or resistance of cancer cells to a therapeutic agent. By examining the expression of one or more of the identified markers, whose expression correlates with sensitivity to a therapeutic agent or resistance to a therapeutic agent, in a sample of cancer cells, it is possible to determine whether a therapeutic agent or combination of agents will be most likely to reduce the growth rate of the cancer and can further be used in selecting appropriate treatment agents. The markers of the present invention whose expression correlates with sensitivity or with resistance to an agent are set forth as SEQ ID NOS:1-1046. In particular, SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 are those markers whose expression correlates with sensitivity and SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 are those markers whose expression correlates with resistance.

By examining the expression of one or more of the identified markers in a sample of cancer cells, it is possible to determine which therapeutic agent or combination of agents will be most likely to reduce the growth rate of the cancer. By examining the expression of one or more of the identified markers in a sample of cancer cells, it is also possible to determine which therapeutic agent or combination of agents will be the least likely to reduce the growth rate of the cancer. By examining the

expression of one or more of the identified markers, it is therefore possible to eliminate ineffective or inappropriate therapeutic agents. Moreover, by examining the expression of one or more of the identified markers in a sample of cancer cells taken from a patient during the course of therapeutic treatment, it is possible to determine whether the therapeutic treatment is continuing to be effective or whether the cancer has become resistant (refractory) to the therapeutic treatment. It is also possible to identify new anti-cancer agents by examining the expression of one or more markers when cancer cells or a cancer cell line is exposed to a potential anti-cancer agent. Importantly, these determinations can be made on a patient by patient basis or on an agent by agent (or combination of agents) basis. Thus, one can determine whether or not a particular therapeutic treatment is likely to benefit a particular patient or group/class of patients, or whether a particular treatment should be continued.

The present invention further provides previously unknown or unrecognized targets for the development of anti-cancer agents, such as chemotherapeutic compounds. The markers of the present invention can be used as targets in developing treatments (either single agent or multiple agent) for cancer, particularly for those cancers which display resistance to agents and exhibit expression of one or more of the markers identified herein, whose expression is correlated with resistance.

Other features and advantages of the invention will be apparent from the detailed description and from the claims. Although materials and methods similar or equivalent to those described herein can be used in the practice or testing of the invention, the preferred materials and methods are described below.

DETAILED DESCRIPTION OF THE INVENTION

General Description

The present invention is based, in part, on the identification of markers that can be used to determine whether cancer cells are sensitive or resistant to a therapeutic agent. Based on these identifications, the present invention provides, without limitation: 1) methods for determining whether a therapeutic agent (or combination of agents) will or will not be effective in stopping or slowing tumor growth; 2) methods for monitoring the effectiveness of a therapeutic agent (or

combination of agents) used for the treatment of cancer; 3) methods for identifying new therapeutic agents for the treatment of cancer; 4) methods for identifying combinations of therapeutic agents for use in treating cancer; and 5) methods for identifying specific therapeutic agents and combinations of therapeutic agents that are effective for the treatment of cancer in specific patients.

Definitions

Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. Although methods and materials similar or equivalent to those described herein can be used in the practice or testing of the present invention, the preferred methods and materials are described herein. All publications, patent applications, patents, and other references mentioned herein are incorporated by reference in their entirety. The content of all database records cited throughout this application are also hereby incorporated by reference. In the case of conflict, the present specification, including definitions, will control. In addition, the materials, methods, and examples are illustrative only and are not intended to be limiting.

The articles "a" and "an" are used herein to refer to one or to more than one (*i.e.* to at least one) of the grammatical object of the article. By way of example, "an element" means one element or more than one element.

A "marker" is a naturally-occurring polymer corresponding to at least one of the nucleic acids, or genetic loci, listed in SEQ ID NOS:1-1046. For example, markers include, without limitation, sense and anti-sense strands of genomic DNA (*i.e.* including any introns occurring therein), RNA generated by transcription of genomic DNA (*i.e.* prior to splicing), RNA generated by splicing of RNA transcribed from genomic DNA, and proteins generated by translation of spliced RNA (*i.e.* including proteins both before and after cleavage of normally cleaved regions such as transmembrane signal sequences). As used herein, "marker" may also include a cDNA made by reverse transcription of an RNA generated by transcription of genomic DNA (including spliced RNA).

The term "probe" refers to any molecule which is capable of selectively binding to a specifically intended target molecule, for example a marker of the invention. Probes can be either synthesized by one skilled in the art, or derived from

appropriate biological preparations. For purposes of detection of the target molecule, probes may be specifically designed to be labeled, as described herein. Examples of molecules that can be utilized as probes include, but are not limited to, RNA, DNA, proteins, antibodies, and organic monomers.

The "normal" level of expression of a marker is the level of expression of the marker in cells of a patient not afflicted with cancer.

"Over-expression" and "under-expression" of a marker refer to expression of the marker of a patient at a greater or lesser level, respectively, than normal level of expression of the marker (*e.g.* at least two-fold greater or lesser level).

As used herein, the term "promoter/regulatory sequence" means a nucleic acid sequence which is required for expression of a gene product operably linked to the promoter/regulatory sequence. In some instances, this sequence may be the core promoter sequence and in other instances, this sequence may also include an enhancer sequence and other regulatory elements which are required for expression of the gene product. The promoter/regulatory sequence may, for example, be one which expresses the gene product in a tissue-specific manner.

A "constitutive" promoter is a nucleotide sequence which, when operably linked with a polynucleotide which encodes or specifies a gene product, causes the gene product to be produced in a living human cell under most or all physiological conditions of the cell.

An "inducible" promoter is a nucleotide sequence which, when operably linked with a polynucleotide which encodes or specifies a gene product, causes the gene product to be produced in a living human cell substantially only when an inducer which corresponds to the promoter is present in the cell.

A "tissue-specific" promoter is a nucleotide sequence which, when operably linked with a polynucleotide which encodes or specifies a gene product, causes the gene product to be produced in a living human cell substantially only if the cell is a cell of the tissue type corresponding to the promoter.

A "transcribed polynucleotide" is a polynucleotide (*e.g.* an RNA, a cDNA, or an analog of one of an RNA or cDNA) which is complementary to or homologous with all or a portion of a mature RNA made by transcription of a genomic DNA corresponding to a marker of the invention and normal post-transcriptional processing (*e.g.* splicing), if any, of the transcript.

"Complementary" refers to the broad concept of sequence complementarity between regions of two nucleic acid strands or between two regions of the same nucleic acid strand. It is known that an adenine residue of a first nucleic acid region is capable of forming specific hydrogen bonds ("base pairing") with a residue of a second nucleic acid region which is antiparallel to the first region if the residue is thymine or uracil. Similarly, it is known that a cytosine residue of a first nucleic acid strand is capable of base pairing with a residue of a second nucleic acid strand which is antiparallel to the first strand if the residue is guanine. A first region of a nucleic acid is complementary to a second region of the same or a different nucleic acid if, when the two regions are arranged in an antiparallel fashion, at least one nucleotide residue of the first region is capable of base pairing with a residue of the second region. Preferably, the first region comprises a first portion and the second region comprises a second portion, whereby, when the first and second portions are arranged in an antiparallel fashion, at least about 50%, and preferably at least about 75%, at least about 90%, or at least about 95% of the nucleotide residues of the first portion are capable of base pairing with nucleotide residues in the second portion. More preferably, all nucleotide residues of the first portion are capable of base pairing with nucleotide residues in the second portion.

"Homologous" as used herein, refers to nucleotide sequence similarity between two regions of the same nucleic acid strand or between regions of two different nucleic acid strands. When a nucleotide residue position in both regions is occupied by the same nucleotide residue, then the regions are homologous at that position. A first region is homologous to a second region if at least one nucleotide residue position of each region is occupied by the same residue. Homology between two regions is expressed in terms of the proportion of nucleotide residue positions of the two regions that are occupied by the same nucleotide residue. By way of example, a region having the nucleotide sequence 5'-ATTGCC-3' and a region having the nucleotide sequence 5'-TATGGC-3' share 50% homology. Preferably, the first region comprises a first portion and the second region comprises a second portion, whereby, at least about 50%, and preferably at least about 75%, at least about 90%, or at least about 95% of the nucleotide residue positions of each of the portions are occupied by the same nucleotide residue. More preferably, all nucleotide residue positions of each of the portions are occupied by the same nucleotide residue.

A marker is "fixed" to a substrate if it is covalently or non-covalently associated with the substrate such the substrate can be rinsed with a fluid (*e.g.* standard saline citrate, pH 7.4) without a substantial fraction of the marker dissociating from the substrate.

As used herein, a "naturally-occurring" nucleic acid molecule refers to an RNA or DNA molecule having a nucleotide sequence that occurs in nature (*e.g.* encodes a natural protein).

Expression of a marker in a patient is "significantly" higher or lower than the normal level of expression of a marker if the level of expression of the marker is greater or less, respectively, than the normal level by an amount greater than the standard error of the assay employed to assess expression, and preferably at least twice, and more preferably three, four, five or ten times that amount. Alternately, expression of the marker in the patient can be considered "significantly" higher or lower than the normal level of expression if the level of expression is at least about two, and preferably at least about three, four, or five times, higher or lower, respectively, than the normal level of expression of the marker.

Cancer is "inhibited" if at least one symptom of the cancer is alleviated, terminated, slowed, or prevented. As used herein, cancer is also "inhibited" if recurrence or metastasis of the cancer is reduced, slowed, delayed, or prevented.

A cancer cell is “sensitive” to a therapeutic agent if its rate of growth is inhibited as a result of contact with the therapeutic agent, compared to its growth in the absence of contact with the therapeutic agent. The quality of being sensitive to a therapeutic agent is a variable one, with different cancer cells exhibiting different levels of “sensitivity” to a given therapeutic agent, under different conditions. In one embodiment of the invention, cancer cells may be predisposed to sensitivity to an agent if one or more of the corresponding sensitivity markers (SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841) are expressed.

A cancer cell is “resistant” to a therapeutic agent if its rate of growth is not inhibited, or inhibited to a very low degree, as a result of contact with the therapeutic agent when compared to its growth in the absence of contact with the therapeutic agent. The quality of being resistant to a therapeutic agent is a highly variable one, with different cancer cells exhibiting different levels of “resistance” to a given therapeutic agent, under different conditions. In another embodiments of the invention, cancer cells

may be predisposed to resistance to an agent if one or more of the corresponding resistant markers (SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046) are expressed.

A kit is any manufacture (*e.g.* a package or container) comprising at least one reagent, *e.g.* a probe, for specifically detecting a marker of the invention. The kit may be promoted, distributed, or sold as a unit for performing the methods of the present invention. The reagents included in such a kit comprise probes/primers and/or antibodies for use in detecting sensitivity and resistance gene expression. In addition, the kits of the present invention may preferably contain instructions which describe a suitable detection assay. Such kits can be conveniently used, e.g., in clinical settings, to diagnose patients exhibiting symptoms of cancer.

Specific Embodiments

I. Identification Of Sensitivity And Resistance Genes

The present invention provides genes that are expressed in cancer cells that are sensitive or resistant to a given therapeutic agent and whose expression correlates with sensitivity to that therapeutic agent. The present invention also provides genes that are expressed in cancer cell lines that are resistant to a given therapeutic agent and whose expression correlates with resistance to that therapeutic agent. Accordingly, one or more of the identified genes can be used as markers (or surrogate markers) to identify cancer cells that can be successfully treated by that agent. In addition, these markers can be used to identify cancers that have become or are at risk of becoming refractory to treatment with the agent.

II. Determining Sensitivity or Resistance To An Agent

The expression level of the identified sensitivity and resistance genes, or the proteins encoded by the identified sensitivity and resistance genes, may be used to: 1) determine if a cancer can be treated by an agent or combination of agents; 2) determine if a cancer is responding to treatment with an agent or combination of agents; 3) select an appropriate agent or combination of agents for treating a cancer; 4) monitor

the effectiveness of an ongoing treatment; and 5) identify new cancer treatments (either single agent or combination of agents). In particular, the identified sensitivity and resistance genes may be utilized as markers (surrogate and/or direct) to determine appropriate therapy, to monitor clinical therapy and human trials of a drug being tested for efficacy, and to develop new agents and therapeutic combinations.

Accordingly, the present invention provides methods for determining whether an agent, e.g., a chemotherapeutic agent, can be used to reduce the growth rate of cancer cells comprising the steps of:

a) obtaining a sample of cancer cells;

b) determining whether the cancer cells express one or more markers identified in SEQ ID NOS:1-1046; and

c) identifying that an agent is or is not appropriate to treat the cancer based on the expression of the markers listed in SEQ ID NOS:1-1046.

In another embodiment, the invention provides a method for determining whether an agent can be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) determining whether the cancer cells express one or more markers identified in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841; and

c) identifying that an agent is appropriate to treat the cancer when one or more markers listed in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 are expressed by the cancer cells.

Alternatively, in step (c), an agent can be identified as not being appropriate to treat the cancer when one or more markers listed in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 are not expressed by the cancer cells.

In another embodiment, the invention provides a method for determining whether an agent can be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) determining whether the cancer cells express one or more markers identified in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046; and

c) identifying that an agent is appropriate to treat the cancer when one or more markers identified in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS:842-1046 are not expressed by the cancer cells.

Alternatively, in step (c), an agent can be identified as not being appropriate to treat the cancer when one or more markers listed in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 are expressed by the cancer cells.

In another embodiment, the invention provides a method for determining whether an agent can be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) exposing some of the cancer cells to one or more test agents;

c) determining the level of expression in of one or more markers listed in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 both in cancer cells exposed to the agent and in cancer cells that have not been exposed to the agent; and

d) identifying that an agent is appropriate to treat the cancer when the expression of the markers listed in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 is increased in the presence of the agent.

Alternatively, in step (d), an agent can be identified as not being appropriate to treat the cancer when the expression of the markers listed in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 is decreased in the presence of the agent.

In another embodiment, the invention provides a method for determining whether an agent can be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) exposing some of the cancer cells to one or more test agents;

c) determining the level of expression in of one or more markers listed in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046, both in cancer cells exposed to the agent and in cancer cells that have not been exposed to the agent; and

d) identifying that an agent is not appropriate to treat the cancer when the expression of the markers listed in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 is increased in the presence of the agent.

Alternatively, in step (d), an agent can be identified as being appropriate to treat the cancer when the expression of the markers listed in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 is decreased in the presence of the agent.

In another embodiment, the invention provides a method for determining whether treatment with an anti-cancer agent should be continued in a cancer patient, comprising the steps of:

a) obtaining two or more samples of cancer cells from a patient at different times during the course of anti-cancer agent treatment;

b) determining the level of expression in the cancer cells of one or more genes which correspond to markers listed in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 in the two or more samples; and

c) continuing the treatment when the expression level of the markers listed in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 does not decrease during the course of treatment.

Alternatively, in step (c), the treatment is discontinued when the expression level of the markers listed in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 are decreased during the course of treatment.

In another embodiment, the invention provides a method for determining whether treatment with an anti-cancer agent should be continued in a cancer patient, comprising the steps of:

a) obtaining two or more samples of cancer cells from a patient at different times during the course of anti-cancer agent treatment;

b) determining the level of expression in the cancer cells of one or more markers listed in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 in the two or more samples; and

c) continuing the treatment when the expression level of one or more markers listed in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 is not increased during the course of treatment.

Alternatively, in step (c), the treatment is discontinued when the expression level of one or more markers listed in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 is increased during the course of treatment.

In another embodiment of the invention, the agents used in methods of the invention is a taxane. In another embodiment of the invention, the expression of genes which correspond to markers listed in SEQ ID NOS:1-1046 is detected by measuring mRNA which corresponds to the gene. In yet another embodiment of the invention, the expression of genes which correspond to markers listed in SEQ ID NOS:1-1046 is detected by measuring protein which corresponds to the gene. In a further another embodiment of the invention, the cancer cells or cancer cell lines used in the methods of the invention are obtained from a patient.

In another embodiment, the invention provides a method of treating a patient for cancer by administering to the patient a compound which has been identified as being effective against cancer by methods of the invention described herein.

As used herein, an agent is said to reduce the rate of growth of cancer cells when the agent can reduce at least 50%, preferably at least 75%, most preferably at least 95% of the growth of the cancer cells.

Such inhibition can further include a reduction in survivability and an increase in the rate of death of the cancer cells. The amount of agent used for this determination will vary based on the agent selected. Typically, the amount will be a predefined therapeutic amount.

As used herein, the term "agent" is defined broadly as anything that cancer cells may be exposed to in a therapeutic protocol. In the context of the present invention, such agents include, but are not limited to, chemotherapeutic agents, such as anti-metabolic agents, *e.g.*, Ara AC, 5-FU and methotrexate, antimitotic agents, *e.g.*, TAXOL, inblastine and vincristine, alkylating agents, *e.g.*, melphanlan, BCNU and nitrogen mustard, Topoisomerase II inhibitors, *e.g.*, VW-26, topotecan and Bleomycin, strand-breaking agents, *e.g.*, doxorubicin and DHAD, cross-linking agents, *e.g.*, cisplatin and CBDCA, radiation and ultraviolet light. In a preferred embodiment, the agent is a taxane compound (*e.g.*, TAXOL).

Further to the above, the language "chemotherapeutic agent" is intended to include chemical reagents which inhibit the growth of proliferating cells or tissues wherein the growth of such cells or tissues is undesirable. Chemotherapeutic agents are

well known in the art (see *e.g.*, Gilman A.G., et al., The Pharmacological Basis of Therapeutics, 8th Ed., Sec 12:1202-1263 (1990)), and are typically used to treat neoplastic diseases. The chemotherapeutic agents generally employed in chemotherapy treatments are listed below in Table A.

TABLE A

CLASS	TYPE OF AGENT	NONPROPRIETARY NAMES (OTHER NAMES)
Alkylating	Nitrogen Mustards	Mechlorethamine (HN_2) Cyclophosphamide Ifosfamide Melphalan (L-sarcolysin) Chlorambucil
	Ethylenimines And Methylmelamines	Hexamethylmelamine Thiotepa
	Alkyl Sulfonates	Busulfan
Alkylating	Nitrosoureas	Carmustine (BCNU) Lomustine (CCNU) Semustine (methyl-CCNU) Streptozocin (streptozotocin)
	Triazenes	Decarbazine (DTIC; dimethyltriazenoimi-dazolecarboxamide)
	Alkylator	cis-diamminedichloroplatinum II (CDDP)

Antimetabolites	Folic Acid Analogs	Methotrexate (amethopterin)
	Pyrimidine Analogs	Fluorouracil ('5-fluorouracil; 5-FU) Floxuridine (fluorode-oxyuridine; FUdR) Cytarabine (cytosine arabinoside)
	Purine Analogs and Related Inhibitors	Mercaptopuine (6-mercaptopurine; 6-MP) Thioguanine (6-thioguanine; TG) Pentostatin (2' - deoxycoformycin)

CLASS	TYPE OF AGENT	NONPROPRIETARY NAMES , (OTHER NAMES)
Natural Products	Vinca Alkaloids	Vinblastin (VLB)
		Vincristine
	Topoisomerase Inhibitors	Etoposide
		Teniposide
		Camptothecin
		Topotecan
		9-amino-campotothecin CPT-11
	Antibiotics	Dactinomycin (actinomycin D)
		Adriamycin
		Daunorubicin (daunomycin; rubindomycin)
		Doxorubicin
		Bleomycin
		Plicamycin (mithramycin)
		Mitomycin (mitomycin C)
		TAXOL
		Taxotere
	Enzymes	L-Asparaginase
	Biological Response Modifiers	Interfon alfa
		interleukin 2

Miscellaneous Agents	Platinum Coordination Complexes	cis-diamminedichloroplatinum II (CDDP) Carboplatin
	Anthracendione	Mitoxantrone
	Substituted Urea	Hydroxyurea
	Methyl Hydraxzine Derivative	Procarbazine (N-methylhydrazine, (MIH)
	Adrenocortical Suppressant	Mitotane (*o,p'*-DDD) Aminoglutethimide
Hormones and Antagonists	Adrenocorticosteroids	Prednisone
	Progestins	Hydroxyprogesterone caproate Medroxyprogesterone acetate Megestrol acetate
	Estrogens	Diethylstilbestrol Ethinyl estradiol
	Antiestrogen	Tamoxifen
	Androgens	Testosterone propionate Fluoxymesterone
	Antiandrogen	Flutamide
	Gonadotropin-releasing Hormone analog	Leuprolide

The agents tested in the present methods can be a single agent or a combination of agents. For example, the present methods can be used to determine whether a single chemotherapeutic agent, such as methotrexate, can be used to treat a cancer or whether a combination of two or more agents can be used. Preferred combinations will include agents that have different mechanisms of action, e.g., the use of an anti-mitotic agent in combination with an alkylating agent.

As used herein, cancer cells refer to cells that divide at an abnormal (increased) rate. Cancer cells include, but are not limited to, carcinomas, such as squamous cell carcinoma, basal cell carcinoma, sweat gland carcinoma, sebaceous gland

carcinoma, adenocarcinoma, papillary carcinoma, papillary adenocarcinoma, cystadenocarcinoma, medullary carcinoma, undifferentiated carcinoma, bronchogenic carcinoma, melanoma, renal cell carcinoma, hepatoma-liver cell carcinoma, bile duct carcinoma, cholangiocarcinoma, papillary carcinoma, transitional cell carcinoma, choriocarcinoma, semonoma, embryonal carcinoma, mammary carcinomas, gastrointestinal carcinoma, colonic carcinomas, bladder carcinoma, prostate carcinoma, and squamous cell carcinoma of the neck and head region; sarcomas, such as fibrosarcoma, myxosarcoma, liposarcoma, chondrosarcoma, osteogenic sarcoma, chordosarcoma, angiosarcoma, endotheliosarcoma, lymphangiosarcoma, synoviosarcoma and mesotheliosarcoma; leukemias and lymphomas such as granulocytic leukemia, monocytic leukemia, lymphocytic leukemia, malignant lymphoma, plasmocytoma, reticulum cell sarcoma, or Hodgkins disease; and tumors of the nervous system including glioma, meningoma, medulloblastoma, schwannoma or epidymoma.

The source of the cancer cells used in the present method will be based on how the method of the present invention is being used. For example, if the method is being used to determine whether a patient's cancer can be treated with an agent, or a combination of agents, then the preferred source of cancer cells will be cancer cells obtained from a cancer biopsy from the patient. Alternatively, a cancer cell line similar to the type of cancer being treated can be assayed. For example if breast cancer is being treated, then a breast cancer cell line can be used. If the method is being used to monitor the effectiveness of a therapeutic protocol, then a tissue sample from the patient being treated is the preferred source. If the method is being used to identify new therapeutic agents or combinations, any cancer cells, e.g., cells of a cancer cell line, can be used.

A skilled artisan can readily select and obtain the appropriate cancer cells that are used in the present method. For cancer cell lines, sources such as The National Cancer Institute, for the NCI-60 cells used in the examples, are preferred. For cancer cells obtained from a patient, standard biopsy methods, such as a needle biopsy, can be employed.

In the methods of the present invention, the level or amount of expression of one or more genes selected from the group consisting of the genes identified in SEQ ID NOS:1-1046 is determined. As used herein, the level or amount of expression refers to the absolute level of expression of an mRNA encoded by the gene or the absolute

level of expression of the protein encoded by the gene (i.e., whether or not expression is or is not occurring in the cancer cells).

Generally, it is preferable to determine the expression of two or more of the identified sensitivity or resistance genes, more preferably, three or more of the identified sensitivity or resistance genes, most preferably all of the identified sensitivity and/or resistance genes. Thus, it is preferable to assess the expression of a panel of sensitivity and resistance genes.

As an alternative to making determinations based on the absolute expression level of selected genes, determinations may be based on the normalized expression levels. Expression levels are normalized by correcting the absolute expression level of a sensitivity or resistance gene by comparing its expression to the expression of a gene that is not a sensitivity or resistance gene, e.g., a housekeeping genes that is constitutively expressed. Suitable genes for normalization include housekeeping genes such as the actin gene. This normalization allows one to compare the expression level in one sample, e.g., a patient sample, to another sample, e.g., a non-cancer sample, or between samples from different sources.

Alternatively, the expression level can be provided as a relative expression level. To determine a relative expression level of a gene, the level of expression of the gene is determined for 10 or more samples, preferably 50 or more samples, prior to the determination of the expression level for the sample in question. The mean expression level of each of the genes assayed in the larger number of samples is determined and this is used as a baseline expression level for the gene(s) in question. The expression level of the gene determined for the test sample (absolute level of expression) is then divided by the mean expression value obtained for that gene. This provides a relative expression level and aids in identifying extreme cases of sensitivity or resistance.

Preferably, the samples used will be from similar tumors or from non-cancerous cells of the same tissue origin as the tumor in question. The choice of the cell source is dependent on the use of the relative expression level data. For example, using tumors of similar types for obtaining a mean expression score allows for the identification of extreme cases of sensitivity or resistance. Using expression found in normal tissues as a mean expression score aids in validating whether the sensitivity/resistance gene assayed is tumor specific (versus normal cells). Such a later

use is particularly important in identifying whether a sensitivity or resistance gene can serve as a target gene. In addition, as more data is accumulated, the mean expression value can be revised, providing improved relative expression values based on accumulated data.

III. Isolated Nucleic Acid Molecules

One aspect of the invention pertains to isolated nucleic acid molecules that correspond to a marker of the invention, including nucleic acids which encode a polypeptide corresponding to a marker of the invention or a portion of such a polypeptide. Isolated nucleic acids of the invention also include nucleic acid molecules sufficient for use as hybridization probes to identify nucleic acid molecules that correspond to a marker of the invention, including nucleic acids which encode a polypeptide corresponding to a marker of the invention, and fragments of such nucleic acid molecules, *e.g.*, those suitable for use as PCR primers for the amplification or mutation of nucleic acid molecules. As used herein, the term "nucleic acid molecule" is intended to include DNA molecules (*e.g.*, cDNA or genomic DNA) and RNA molecules (*e.g.*, mRNA) and analogs of the DNA or RNA generated using nucleotide analogs. The nucleic acid molecule can be single-stranded or double-stranded, but preferably is double-stranded DNA.

An "isolated" nucleic acid molecule is one which is separated from other nucleic acid molecules which are present in the natural source of the nucleic acid molecule. Preferably, an "isolated" nucleic acid molecule is free of sequences (preferably protein-encoding sequences) which naturally flank the nucleic acid (*i.e.*, sequences located at the 5' and 3' ends of the nucleic acid) in the genomic DNA of the organism from which the nucleic acid is derived. For example, in various embodiments, the isolated nucleic acid molecule can contain less than about 5 kB, 4 kB, 3 kB, 2 kB, 1 kB, 0.5 kB or 0.1 kB of nucleotide sequences which naturally flank the nucleic acid molecule in genomic DNA of the cell from which the nucleic acid is derived. Moreover, an "isolated" nucleic acid molecule, such as a cDNA molecule, can be substantially free of other cellular material, or culture medium when produced by recombinant techniques, or substantially free of chemical precursors or other chemicals when chemically synthesized.

A nucleic acid molecule of the present invention, *e.g.*, a nucleic acid encoding a protein corresponding to a marker listed in SEQ ID NOS:1-1046, can be isolated using standard molecular biology techniques and the sequence information in the database records described herein. Using all or a portion of such nucleic acid sequences, nucleic acid molecules of the invention can be isolated using standard hybridization and cloning techniques (*e.g.*, as described in Sambrook *et al.*, ed., *Molecular Cloning: A Laboratory Manual, 2nd ed.,* Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, 1989).

A nucleic acid molecule of the invention can be amplified using cDNA, mRNA, or genomic DNA as a template and appropriate oligonucleotide primers according to standard PCR amplification techniques. The nucleic acid so amplified can be cloned into an appropriate vector and characterized by DNA sequence analysis. Furthermore, oligonucleotides corresponding to all or a portion of a nucleic acid molecule of the invention can be prepared by standard synthetic techniques, *e.g.*, using an automated DNA synthesizer.

In another preferred embodiment, an isolated nucleic acid molecule of the invention comprises a nucleic acid molecule which has a nucleotide sequence complementary to the nucleotide sequence of a nucleic acid corresponding to a marker of the invention or to the nucleotide sequence of a nucleic acid encoding a protein which corresponds to a marker of the invention. A nucleic acid molecule which is complementary to a given nucleotide sequence is one which is sufficiently complementary to the given nucleotide sequence that it can hybridize to the given nucleotide sequence thereby forming a stable duplex.

Moreover, a nucleic acid molecule of the invention can comprise only a portion of a nucleic acid sequence, wherein the full length nucleic acid sequence comprises a marker of the invention or which encodes a polypeptide corresponding to a marker of the invention. Such nucleic acids can be used, for example, as a probe or primer. The probe/primer typically is used as one or more substantially purified oligonucleotides. The oligonucleotide typically comprises a region of nucleotide sequence that hybridizes under stringent conditions to at least about 7, preferably about 15, more preferably about 25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, or 400 or more consecutive nucleotides of a nucleic acid of the invention.

Probes based on the sequence of a nucleic acid molecule of the invention can be used to detect transcripts or genomic sequences corresponding to one or more markers of the invention. The probe comprises a label group attached thereto, *e.g.*, a radioisotope, a fluorescent compound, an enzyme, or an enzyme co-factor. Such probes can be used as part of a diagnostic test kit for identifying cells or tissues which mis-express the protein, such as by measuring levels of a nucleic acid molecule encoding the protein in a sample of cells from a subject, *e.g.*, detecting mRNA levels or determining whether a gene encoding the protein has been mutated or deleted.

The invention further encompasses nucleic acid molecules that differ, due to degeneracy of the genetic code, from the nucleotide sequence of nucleic acids encoding a protein which corresponds to a marker of the invention, and thus encode the same protein.

In addition to the nucleotide sequences set forth in SEQ ID NOS:1-1046, it will be appreciated by those skilled in the art that DNA sequence polymorphisms that lead to changes in the amino acid sequence can exist within a population (*e.g.*, the human population). Such genetic polymorphisms can exist among individuals within a population due to natural allelic variation. An allele is one of a group of genes which occur alternatively at a given genetic locus. In addition, it will be appreciated that DNA polymorphisms that affect RNA expression levels can also exist that may affect the overall expression level of that gene (*e.g.*, by affecting regulation or degradation).

As used herein, the phrase "allelic variant" refers to a nucleotide sequence which occurs at a given locus or to a polypeptide encoded by the nucleotide sequence.

As used herein, the terms "gene" and "recombinant gene" refer to nucleic acid molecules comprising an open reading frame encoding a polypeptide corresponding to a marker of the invention. Such natural allelic variations can typically result in 1-5% variance in the nucleotide sequence of a given gene. Alternative alleles can be identified by sequencing the gene of interest in a number of different individuals. This can be readily carried out by using hybridization probes to identify the same genetic locus in a variety of individuals. Any and all such nucleotide variations and resulting amino acid polymorphisms or variations that are the result of natural allelic variation and that do not alter the functional activity are intended to be within the scope of the invention.

In another embodiment, an isolated nucleic acid molecule of the invention is at least 7, 15, 20, 25, 30, 40, 60, 80, 100, 150, 200, 250, 300, 350, 400, 450, 550, 650, 700, 800, 900, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400, 2600, 2800, 3000, 3500, 4000, 4500, or more nucleotides in length and hybridizes under stringent conditions to a nucleic acid corresponding to a marker of the invention or to a nucleic acid encoding a protein corresponding to a marker of the invention. As used herein, the term "hybridizes under stringent conditions" is intended to describe conditions for hybridization and washing under which nucleotide sequences at least 60% (65%, 70%, preferably 75%) identical to each other typically remain hybridized to each other. Such stringent conditions are known to those skilled in the art and can be found in sections 6.3.1-6.3.6 of *Current Protocols in Molecular Biology*, John Wiley & Sons, N.Y. (1989). A preferred, non-limiting example of stringent hybridization conditions are hybridization in 6X sodium chloride/sodium citrate (SSC) at about 45°C, followed by one or more washes in 0.2X SSC, 0.1% SDS at 50-65°C.

In addition to naturally-occurring allelic variants of a nucleic acid molecule of the invention that can exist in the population, the skilled artisan will further appreciate that sequence changes can be introduced by mutation thereby leading to changes in the amino acid sequence of the encoded protein, without altering the biological activity of the protein encoded thereby. For example, one can make nucleotide substitutions leading to amino acid substitutions at "non-essential" amino acid residues. A "non-essential" amino acid residue is a residue that can be altered from the wild-type sequence without altering the biological activity, whereas an "essential" amino acid residue is required for biological activity. For example, amino acid residues that are not conserved or only semi-conserved among homologs of various species may be non-essential for activity and thus would be likely targets for alteration. Alternatively, amino acid residues that are conserved among the homologs of various species (*e.g.*, murine and human) may be essential for activity and thus would not be likely targets for alteration.

Accordingly, another aspect of the invention pertains to nucleic acid molecules encoding a polypeptide of the invention that contain changes in amino acid residues that are not essential for activity. Such polypeptides differ in amino acid sequence from the naturally-occurring proteins which correspond to the markers of the invention, yet retain biological activity. In one embodiment, such a protein has an

amino acid sequence that is at least about 40% identical, 50%, 60%, 70%, 80%, 90%, 95%, or 98% identical to the amino acid sequence of one of the proteins which correspond to the markers of the invention.

An isolated nucleic acid molecule encoding a variant protein can be created by introducing one or more nucleotide substitutions, additions or deletions into the nucleotide sequence of nucleic acids of the invention, such that one or more amino acid residue substitutions, additions, or deletions are introduced into the encoded protein. Mutations can be introduced by standard techniques, such as site-directed mutagenesis and PCR-mediated mutagenesis. Preferably, conservative amino acid substitutions are made at one or more predicted non-essential amino acid residues. A "conservative amino acid substitution" is one in which the amino acid residue is replaced with an amino acid residue having a similar side chain. Families of amino acid residues having similar side chains have been defined in the art. These families include amino acids with basic side chains (*e.g.*, lysine, arginine, histidine), acidic side chains (*e.g.*, aspartic acid, glutamic acid), uncharged polar side chains (*e.g.*, glycine, asparagine, glutamine, serine, threonine, tyrosine, cysteine), non-polar side chains (*e.g.*, alanine, valine, leucine, isoleucine, proline, phenylalanine, methionine, tryptophan), beta-branched side chains (*e.g.*, threonine, valine, isoleucine) and aromatic side chains (*e.g.*, tyrosine, phenylalanine, tryptophan, histidine). Alternatively, mutations can be introduced randomly along all or part of the coding sequence, such as by saturation mutagenesis, and the resultant mutants can be screened for biological activity to identify mutants that retain activity. Following mutagenesis, the encoded protein can be expressed recombinantly and the activity of the protein can be determined.

The present invention encompasses antisense nucleic acid molecules, *i.e.*, molecules which are complementary to a sense nucleic acid of the invention, *e.g.*, complementary to the coding strand of a double-stranded cDNA molecule corresponding to a marker of the invention or complementary to an mRNA sequence corresponding to a marker of the invention. Accordingly, an antisense nucleic acid of the invention can hydrogen bond to (*i.e.* anneal with) a sense nucleic acid of the invention. The antisense nucleic acid can be complementary to an entire coding strand, or to only a portion thereof, *e.g.*, all or part of the protein coding region (or open reading frame). An antisense nucleic acid molecule can also be antisense to all or part of a non-coding region of the coding strand of a nucleotide sequence encoding a polypeptide of

the invention. The non-coding regions ("5' and 3' untranslated regions") are the 5' and 3' sequences which flank the coding region and are not translated into amino acids.

An antisense oligonucleotide can be, for example, about 5, 10, 15, 20, 25, 30, 35, 40, 45, or 50 or more nucleotides in length. An antisense nucleic acid of the invention can be constructed using chemical synthesis and enzymatic ligation reactions using procedures known in the art. For example, an antisense nucleic acid (*e.g.*, an antisense oligonucleotide) can be chemically synthesized using naturally occurring nucleotides or variously modified nucleotides designed to increase the biological stability of the molecules or to increase the physical stability of the duplex formed between the antisense and sense nucleic acids, *e.g.*, phosphorothioate derivatives and acridine substituted nucleotides can be used. Examples of modified nucleotides which can be used to generate the antisense nucleic acid include 5-fluorouracil, 5-bromouracil, 5-chlorouracil, 5-iodouracil, hypoxanthine, xanthine, 4-acetylcytosine, 5-(carboxyhydroxylmethyl) uracil, 5-carboxymethylaminomethyl-2-thiouridine, 5-carboxymethylaminomethyluracil, dihydrouracil, beta-D-galactosylqueosine, inosine, N6-isopentenyladenine, 1-methylguanine, 1-methylinosine, 2,2-dimethylguanine, 2-methyladenine, 2-methylguanine, 3-methylcytosine, 5-methylcytosine, N6-adenine, 7-methylguanine, 5-methylaminomethyluracil, 5-methoxyaminomethyl-2-thiouracil, beta-D-mannosylqueosine, 5'-methoxycarboxymethyluracil, 5-methoxyuracil, 2-methylthio-N6-isopentenyladenine, uracil-5-oxyacetic acid (v), wybutoxosine, pseudouracil, queosine, 2-thiocytosine, 5-methyl-2-thiouracil, 2-thiouracil, 4-thiouracil, 5-methyluracil, uracil-5-oxyacetic acid methylester, uracil-5-oxyacetic acid (v), 5-methyl-2-thiouracil, 3-(3-amino-3-N-2-carboxypropyl) uracil, (acp3)w, and 2,6-diaminopurine. Alternatively, the antisense nucleic acid can be produced biologically using an expression vector into which a nucleic acid has been sub-cloned in an antisense orientation (*i.e.*, RNA transcribed from the inserted nucleic acid will be of an antisense orientation to a target nucleic acid of interest, described further in the following subsection).

The antisense nucleic acid molecules of the invention are typically administered to a subject or generated *in situ* such that they hybridize with or bind to cellular mRNA and/or genomic DNA encoding a polypeptide corresponding to a selected marker of the invention to thereby inhibit expression of the marker, *e.g.*, by inhibiting transcription and/or translation. The hybridization can be by conventional

nucleotide complementarity to form a stable duplex, or, for example, in the case of an antisense nucleic acid molecule which binds to DNA duplexes, through specific interactions in the major groove of the double helix. Examples of a route of administration of antisense nucleic acid molecules of the invention includes direct injection at a tissue site or infusion of the antisense nucleic acid into an ovary-associated body fluid. Alternatively, antisense nucleic acid molecules can be modified to target selected cells and then administered systemically. For example, for systemic administration, antisense molecules can be modified such that they specifically bind to receptors or antigens expressed on a selected cell surface, *e.g.*, by linking the antisense nucleic acid molecules to peptides or antibodies which bind to cell surface receptors or antigens. The antisense nucleic acid molecules can also be delivered to cells using the vectors described herein. To achieve sufficient intracellular concentrations of the antisense molecules, vector constructs in which the antisense nucleic acid molecule is placed under the control of a strong pol II or pol III promoter are preferred.

An antisense nucleic acid molecule of the invention can be an α-anomeric nucleic acid molecule. An α-anomeric nucleic acid molecule forms specific double-stranded hybrids with complementary RNA in which, contrary to the usual α-units, the strands run parallel to each other (Gaultier *et al.*, 1987, *Nucleic Acids Res.* 15:6625-6641). The antisense nucleic acid molecule can also comprise a 2'-o-methylribonucleotide (Inoue *et al.*, 1987, *Nucleic Acids Res.* 15:6131-6148) or a chimeric RNA-DNA analogue (Inoue *et al.*, 1987, *FEBS Lett.* 215:327-330).

The invention also encompasses ribozymes. Ribozymes are catalytic RNA molecules with ribonuclease activity which are capable of cleaving a single-stranded nucleic acid, such as an mRNA, to which they have a complementary region. Thus, ribozymes (*e.g.*, hammerhead ribozymes as described in Haselhoff and Gerlach, 1988, *Nature* 334:585-591) can be used to catalytically cleave mRNA transcripts to thereby inhibit translation of the protein encoded by the mRNA. A ribozyme having specificity for a nucleic acid molecule encoding a polypeptide corresponding to a marker of the invention can be designed based upon the nucleotide sequence of a cDNA corresponding to the marker. For example, a derivative of a *Tetrahymena* L-19 IVS RNA can be constructed in which the nucleotide sequence of the active site is complementary to the nucleotide sequence to be cleaved (see Cech *et al.* U.S. Patent No. 4,987,071; and Cech *et al.* U.S. Patent No. 5,116,742). Alternatively, an mRNA

encoding a polypeptide of the invention can be used to select a catalytic RNA having a specific ribonuclease activity from a pool of RNA molecules (see, *e.g.*, Bartel and Szostak, 1993, *Science* 261:1411-1418).

The invention also encompasses nucleic acid molecules which form triple helical structures. For example, expression of a polypeptide of the invention can be inhibited by targeting nucleotide sequences complementary to the regulatory region of the gene encoding the polypeptide (*e.g.*, the promoter and/or enhancer) to form triple helical structures that prevent transcription of the gene in target cells. See generally Helene (1991) *Anticancer Drug Des.* 6(6):569-84; Helene (1992) *Ann. N.Y. Acad. Sci.* 660:27-36; and Maher (1992) *Bioassays* 14(12):807-15.

In various embodiments, the nucleic acid molecules of the invention can be modified at the base moiety, sugar moiety or phosphate backbone to improve, *e.g.*, the stability, hybridization, or solubility of the molecule. For example, the deoxyribose phosphate backbone of the nucleic acids can be modified to generate peptide nucleic acids (see Hyrup *et al.*, 1996, *Bioorganic & Medicinal Chemistry* 4(1): 5-23). As used herein, the terms "peptide nucleic acids" or "PNAs" refer to nucleic acid mimics, *e.g.*, DNA mimics, in which the deoxyribose phosphate backbone is replaced by a pseudopeptide backbone and only the four natural nucleobases are retained. The neutral backbone of PNAs has been shown to allow for specific hybridization to DNA and RNA under conditions of low ionic strength. The synthesis of PNA oligomers can be performed using standard solid phase peptide synthesis protocols as described in Hyrup *et al.* (1996), *supra*; Perry-O'Keefe *et al.* (1996) *Proc. Natl. Acad. Sci. USA* 93:14670-675.

PNAs can be used in therapeutic and diagnostic applications. For example, PNAs can be used as antisense or antigene agents for sequence-specific modulation of gene expression by, *e.g.*, inducing transcription or translation arrest or inhibiting replication. PNAs can also be used, *e.g.*, in the analysis of single base pair mutations in a gene by, *e.g.*, PNA directed PCR clamping; as artificial restriction enzymes when used in combination with other enzymes, *e.g.*, S1 nucleases (Hyrup (1996), *supra*; or as probes or primers for DNA sequence and hybridization (Hyrup, 1996, *supra*; Perry-O'Keefe *et al.*, 1996, *Proc. Natl. Acad. Sci. USA* 93:14670-675).

In another embodiment, PNAs can be modified, *e.g.*, to enhance their stability or cellular uptake, by attaching lipophilic or other helper groups to PNA, by the

formation of PNA-DNA chimeras, or by the use of liposomes or other techniques of drug delivery known in the art. For example, PNA-DNA chimeras can be generated which can combine the advantageous properties of PNA and DNA. Such chimeras allow DNA recognition enzymes, *e.g.*, RNASE H and DNA polymerases, to interact with the DNA portion while the PNA portion would provide high binding affinity and specificity. PNA-DNA chimeras can be linked using linkers of appropriate lengths selected in terms of base stacking, number of bonds between the nucleobases, and orientation (Hyrup, 1996, *supra*). The synthesis of PNA-DNA chimeras can be performed as described in Hyrup (1996), *supra,* and Finn *et al.* (1996) *Nucleic Acids Res.* 24(17):3357-63. For example, a DNA chain can be synthesized on a solid support using standard phosphoramidite coupling chemistry and modified nucleoside analogs. Compounds such as 5'-(4-methoxytrityl)amino-5'-deoxy-thymidine phosphoramidite can be used as a link between the PNA and the 5' end of DNA (Mag *et al.*, 1989, *Nucleic Acids Res.* 17:5973-88). PNA monomers are then coupled in a step-wise manner to produce a chimeric molecule with a 5' PNA segment and a 3' DNA segment (Finn *et al.*, 1996, *Nucleic Acids Res.* 24(17):3357-63). Alternatively, chimeric molecules can be synthesized with a 5' DNA segment and a 3' PNA segment (Peterser *et al.*, 1975, *Bioorganic Med. Chem. Lett.* 5:1119-11124).

In other embodiments, the oligonucleotide can include other appended groups such as peptides (*e.g.*, for targeting host cell receptors *in vivo*), or agents facilitating transport across the cell membrane (see, *e.g.*, Letsinger *et al.*, 1989, *Proc. Natl. Acad. Sci. USA* 86:6553-6556; Lemaitre *et al.*, 1987, *Proc. Natl. Acad. Sci. USA* 84:648-652; PCT Publication No. WO 88/09810) or the blood-brain barrier (see, *e.g.*, PCT Publication No. WO 89/10134). In addition, oligonucleotides can be modified with hybridization-triggered cleavage agents (see, *e.g.*, Krol *et al.*, 1988, *Bio/Techniques* 6:958-976) or intercalating agents (see, *e.g.*, Zon, 1988, *Pharm. Res.* 5:539-549). To this end, the oligonucleotide can be conjugated to another molecule, *e.g.*, a peptide, hybridization triggered cross-linking agent, transport agent, hybridization-triggered cleavage agent, etc.

The invention also includes molecular beacon nucleic acids having at least one region which is complementary to a nucleic acid of the invention, such that the molecular beacon is useful for quantitating the presence of the nucleic acid of the invention in a sample. A "molecular beacon" nucleic acid is a nucleic acid comprising a

pair of complementary regions and having a fluorophore and a fluorescent quencher associated therewith. The fluorophore and quencher are associated with different portions of the nucleic acid in such an orientation that when the complementary regions are annealed with one another, fluorescence of the fluorophore is quenched by the quencher. When the complementary regions of the nucleic acid are not annealed with one another, fluorescence of the fluorophore is quenched to a lesser degree. Molecular beacon nucleic acids are described, for example, in U.S. Patent 5,876,930.

IV. Isolated Proteins and Antibodies

One aspect of the invention pertains to isolated proteins which correspond to individual markers of the invention, and biologically active portions thereof, as well as polypeptide fragments suitable for use as immunogens to raise antibodies directed against a polypeptide corresponding to a marker of the invention. In one embodiment, the native polypeptide corresponding to a marker can be isolated from cells or tissue sources by an appropriate purification scheme using standard protein purification techniques. In another embodiment, polypeptides corresponding to a marker of the invention are produced by recombinant DNA techniques. Alternative to recombinant expression, a polypeptide corresponding to a marker of the invention can be synthesized chemically using standard peptide synthesis techniques.

An "isolated" or "purified" protein or biologically active portion thereof is substantially free of cellular material or other contaminating proteins from the cell or tissue source from which the protein is derived, or substantially free of chemical precursors or other chemicals when chemically synthesized. The language "substantially free of cellular material" includes preparations of protein in which the protein is separated from cellular components of the cells from which it is isolated or recombinantly produced. Thus, protein that is substantially free of cellular material includes preparations of protein having less than about 30%, 20%, 10%, or 5% (by dry weight) of heterologous protein (also referred to herein as a "contaminating protein"). When the protein or biologically active portion thereof is recombinantly produced, it is also preferably substantially free of culture medium, *i.e.*, culture medium represents less than about 20%, 10%, or 5% of the volume of the protein preparation. When the protein is produced by chemical synthesis, it is preferably substantially free of chemical precursors or other chemicals, *i.e.*, it is separated from chemical precursors or other

chemicals which are involved in the synthesis of the protein. Accordingly such preparations of the protein have less than about 30%, 20%, 10%, 5% (by dry weight) of chemical precursors or compounds other than the polypeptide of interest.

Biologically active portions of a polypeptide corresponding to a marker of the invention include polypeptides comprising amino acid sequences sufficiently identical to or derived from the amino acid sequence of the protein corresponding to the marker, which include fewer amino acids than the full length protein, and exhibit at least one activity of the corresponding full-length protein. Typically, biologically active portions comprise a domain or motif with at least one activity of the corresponding protein. A biologically active portion of a protein of the invention can be a polypeptide which is, for example, 10, 25, 50, 100 or more amino acids in length. Moreover, other biologically active portions, in which other regions of the protein are deleted, can be prepared by recombinant techniques and evaluated for one or more of the functional activities of the native form of a polypeptide of the invention.

Preferred polypeptides are encoded by the nucleotide sequences set forth in SEQ ID NOS:1-1046. Other useful proteins are substantially identical (*e.g.*, at least about 40%, preferably 50%, 60%, 70%, 80%, 90%, 95%, or 99%) to one of these sequences and retain the functional activity of the protein of the corresponding naturally-occurring protein yet differ in amino acid sequence due to natural allelic variation or mutagenesis.

To determine the percent identity of two amino acid sequences or of two nucleic acids, the sequences are aligned for optimal comparison purposes (*e.g.*, gaps can be introduced in the sequence of a first amino acid or nucleic acid sequence for optimal alignment with a second amino or nucleic acid sequence). The amino acid residues or nucleotides at corresponding amino acid positions or nucleotide positions are then compared. When a position in the first sequence is occupied by the same amino acid residue or nucleotide as the corresponding position in the second sequence, then the molecules are identical at that position. The percent identity between the two sequences is a function of the number of identical positions shared by the sequences (*i.e.*, % identity = # of identical positions/total # of positions (*e.g.*, overlapping positions) x100). In one embodiment the two sequences are the same length.

The determination of percent identity between two sequences can be accomplished using a mathematical algorithm. A preferred, non-limiting example of a

mathematical algorithm utilized for the comparison of two sequences is the algorithm of Karlin and Altschul (1990) *Proc. Natl. Acad. Sci. USA* 87:2264-2268, modified as in Karlin and Altschul (1993) *Proc. Natl. Acad. Sci. USA* 90:5873-5877. Such an algorithm is incorporated into the NBLAST and XBLAST programs of Altschul, *et al.* (1990) *J. Mol. Biol.* 215:403-410. BLAST nucleotide searches can be performed with the NBLAST program, score = 100, wordlength = 12 to obtain nucleotide sequences homologous to a nucleic acid molecules of the invention. BLAST protein searches can be performed with the XBLAST program, score = 50, wordlength = 3 to obtain amino acid sequences homologous to a protein molecules of the invention. To obtain gapped alignments for comparison purposes, Gapped BLAST can be utilized as described in Altschul *et al.* (1997) *Nucleic Acids Res.* 25:3389-3402. Alternatively, PSI-Blast can be used to perform an iterated search which detects distant relationships between molecules. When utilizing BLAST, Gapped BLAST, and PSI-Blast programs, the default parameters of the respective programs (*e.g.*, XBLAST and NBLAST) can be used. See http://www.ncbi.nlm.nih.gov. Another preferred, non-limiting example of a mathematical algorithm utilized for the comparison of sequences is the algorithm of Myers and Miller, (1988) *CABIOS* 4:11-17. Such an algorithm is incorporated into the ALIGN program (version 2.0) which is part of the GCG sequence alignment software package. When utilizing the ALIGN program for comparing amino acid sequences, a PAM120 weight residue table, a gap length penalty of 12, and a gap penalty of 4 can be used. Yet another useful algorithm for identifying regions of local sequence similarity and alignment is the FASTA algorithm as described in Pearson and Lipman (1988) *Proc. Natl. Acad. Sci. USA* 85:2444-2448. When using the FASTA algorithm for comparing nucleotide or amino acid sequences, a PAM120 weight residue table can, for example, be used with a *k*-tuple value of 2.

The percent identity between two sequences can be determined using techniques similar to those described above, with or without allowing gaps. In calculating percent identity, only exact matches are counted.

The invention also provides chimeric or fusion proteins corresponding to a marker of the invention. As used herein, a "chimeric protein" or "fusion protein" comprises all or part (preferably a biologically active part) of a polypeptide corresponding to a marker of the invention operably linked to a heterologous polypeptide (*i.e.*, a polypeptide other than the polypeptide corresponding to the marker).

Within the fusion protein, the term "operably linked" is intended to indicate that the polypeptide of the invention and the heterologous polypeptide are fused in-frame to each other. The heterologous polypeptide can be fused to the amino-terminus or the carboxyl-terminus of the polypeptide of the invention.

One useful fusion protein is a GST fusion protein in which a polypeptide corresponding to a marker of the invention is fused to the carboxyl terminus of GST sequences. Such fusion proteins can facilitate the purification of a recombinant polypeptide of the invention.

In another embodiment, the fusion protein contains a heterologous signal sequence at its amino terminus. For example, the native signal sequence of a polypeptide corresponding to a marker of the invention can be removed and replaced with a signal sequence from another protein. For example, the gp67 secretory sequence of the baculovirus envelope protein can be used as a heterologous signal sequence (Ausubel *et al.*, ed., *Current Protocols in Molecular Biology*, John Wiley & Sons, NY, 1992). Other examples of eukaryotic heterologous signal sequences include the secretory sequences of melittin and human placental alkaline phosphatase (Stratagene; La Jolla, California). In yet another example, useful prokaryotic heterologous signal sequences include the phoA secretory signal (Sambrook *et al., supra*) and the protein A secretory signal (Pharmacia Biotech; Piscataway, New Jersey).

In yet another embodiment, the fusion protein is an immunoglobulin fusion protein in which all or part of a polypeptide corresponding to a marker of the invention is fused to sequences derived from a member of the immunoglobulin protein family. The immunoglobulin fusion proteins of the invention can be incorporated into pharmaceutical compositions and administered to a subject to inhibit an interaction between a ligand (soluble or membrane-bound) and a protein on the surface of a cell (receptor), to thereby suppress signal transduction *in vivo*. The immunoglobulin fusion protein can be used to affect the bioavailability of a cognate ligand of a polypeptide of the invention. Inhibition of ligand/receptor interaction can be useful therapeutically, both for treating proliferative and differentiative disorders and for modulating (*e.g.* promoting or inhibiting) cell survival. Moreover, the immunoglobulin fusion proteins of the invention can be used as immunogens to produce antibodies directed against a polypeptide of the invention in a subject, to purify ligands and in screening assays to identify molecules which inhibit the interaction of receptors with ligands.

Chimeric and fusion proteins of the invention can be produced by standard recombinant DNA techniques. In another embodiment, the fusion gene can be synthesized by conventional techniques including automated DNA synthesizers. Alternatively, PCR amplification of gene fragments can be carried out using anchor primers which give rise to complementary overhangs between two consecutive gene fragments which can subsequently be annealed and re-amplified to generate a chimeric gene sequence (see, *e.g.*, Ausubel *et al.*, *supra*). Moreover, many expression vectors are commercially available that already encode a fusion moiety (*e.g.*, a GST polypeptide). A nucleic acid encoding a polypeptide of the invention can be cloned into such an expression vector such that the fusion moiety is linked in-frame to the polypeptide of the invention.

A signal sequence can be used to facilitate secretion and isolation of the secreted protein or other proteins of interest. Signal sequences are typically characterized by a core of hydrophobic amino acids which are generally cleaved from the mature protein during secretion in one or more cleavage events. Such signal peptides contain processing sites that allow cleavage of the signal sequence from the mature proteins as they pass through the secretory pathway. Thus, the invention pertains to the described polypeptides having a signal sequence, as well as to polypeptides from which the signal sequence has been proteolytically cleaved (*i.e.*, the cleavage products). In one embodiment, a nucleic acid sequence encoding a signal sequence can be operably linked in an expression vector to a protein of interest, such as a protein which is ordinarily not secreted or is otherwise difficult to isolate. The signal sequence directs secretion of the protein, such as from a eukaryotic host into which the expression vector is transformed, and the signal sequence is subsequently or concurrently cleaved. The protein can then be readily purified from the extracellular medium by art recognized methods. Alternatively, the signal sequence can be linked to the protein of interest using a sequence which facilitates purification, such as with a GST domain.

The present invention also pertains to variants of the polypeptides corresponding to individual markers of the invention. Such variants have an altered amino acid sequence which can function as either agonists (mimetics) or as antagonists. Variants can be generated by mutagenesis, *e.g.*, discrete point mutation or truncation. An agonist can retain substantially the same, or a subset, of the biological activities of the naturally occurring form of the protein. An antagonist of a protein can inhibit one or

more of the activities of the naturally occurring form of the protein by, for example, competitively binding to a downstream or upstream member of a cellular signaling cascade which includes the protein of interest. Thus, specific biological effects can be elicited by treatment with a variant of limited function. Treatment of a subject with a variant having a subset of the biological activities of the naturally occurring form of the protein can have fewer side effects in a subject relative to treatment with the naturally occurring form of the protein.

Variants of a protein of the invention which function as either agonists (mimetics) or as antagonists can be identified by screening combinatorial libraries of mutants, *e.g.*, truncation mutants, of the protein of the invention for agonist or antagonist activity. In one embodiment, a variegated library of variants is generated by combinatorial mutagenesis at the nucleic acid level and is encoded by a variegated gene library. A variegated library of variants can be produced by, for example, enzymatically ligating a mixture of synthetic oligonucleotides into gene sequences such that a degenerate set of potential protein sequences is expressible as individual polypeptides, or alternatively, as a set of larger fusion proteins (*e.g.*, for phage display). There are a variety of methods which can be used to produce libraries of potential variants of the polypeptides of the invention from a degenerate oligonucleotide sequence. Methods for synthesizing degenerate oligonucleotides are known in the art (see, *e.g.*, Narang, 1983, *Tetrahedron* 39:3; Itakura *et al.*, 1984, *Annu. Rev. Biochem.* 53:323; Itakura *et al.*, 1984, *Science* 198:1056; Ike *et al.*, 1983 *Nucleic Acid Res.* 11:477).

In addition, libraries of fragments of the coding sequence of a polypeptide corresponding to a marker of the invention can be used to generate a variegated population of polypeptides for screening and subsequent selection of variants. For example, a library of coding sequence fragments can be generated by treating a double stranded PCR fragment of the coding sequence of interest with a nuclease under conditions wherein nicking occurs only about once per molecule, denaturing the double stranded DNA, renaturing the DNA to form double stranded DNA which can include sense/antisense pairs from different nicked products, removing single stranded portions from reformed duplexes by treatment with S1 nuclease, and ligating the resulting fragment library into an expression vector. By this method, an expression library can be derived which encodes amino terminal and internal fragments of various sizes of the protein of interest.

Several techniques are known in the art for screening gene products of combinatorial libraries made by point mutations or truncation, and for screening cDNA libraries for gene products having a selected property. The most widely used techniques, which are amenable to high through-put analysis, for screening large gene libraries typically include cloning the gene library into replicable expression vectors, transforming appropriate cells with the resulting library of vectors, and expressing the combinatorial genes under conditions in which detection of a desired activity facilitates isolation of the vector encoding the gene whose product was detected. Recursive ensemble mutagenesis (REM), a technique which enhances the frequency of functional mutants in the libraries, can be used in combination with the screening assays to identify variants of a protein of the invention (Arkin and Yourvan, 1992, *Proc. Natl. Acad. Sci. USA 89*:7811-7815; Delgrave *et al.*, 1993, *Protein Engineering* 6(3):327- 331).

An isolated polypeptide corresponding to a marker of the invention, or a fragment thereof, can be used as an immunogen to generate antibodies using standard techniques for polyclonal and monoclonal antibody preparation. The full-length polypeptide or protein can be used or, alternatively, the invention provides antigenic peptide fragments for use as immunogens. The antigenic peptide of a protein of the invention comprises at least 8 (preferably 10, 15, 20, or 30 or more) amino acid residues of the amino acid sequence of one of the polypeptides of the invention, and encompasses an epitope of the protein such that an antibody raised against the peptide forms a specific immune complex with a marker of the invention to which the protein corresponds. Preferred epitopes encompassed by the antigenic peptide are regions that are located on the surface of the protein, *e.g.*, hydrophilic regions. Hydrophobicity sequence analysis, hydrophilicity sequence analysis, or similar analyses can be used to identify hydrophilic regions.

An immunogen typically is used to prepare antibodies by immunizing a suitable (*i.e.* immunocompetent) subject such as a rabbit, goat, mouse, or other mammal or vertebrate. An appropriate immunogenic preparation can contain, for example, recombinantly-expressed or chemically-synthesized polypeptide. The preparation can further include an adjuvant, such as Freund's complete or incomplete adjuvant, or a similar immunostimulatory agent.

Accordingly, another aspect of the invention pertains to antibodies directed against a polypeptide of the invention. The terms "antibody" and "antibody

substance" as used interchangeably herein refer to immunoglobulin molecules and immunologically active portions of immunoglobulin molecules, *i.e.*, molecules that contain an antigen binding site which specifically binds an antigen, such as a polypeptide of the invention. A molecule which specifically binds to a given polypeptide of the invention is a molecule which binds the polypeptide, but does not substantially bind other molecules in a sample, *e.g.*, a biological sample, which naturally contains the polypeptide. Examples of immunologically active portions of immunoglobulin molecules include F(ab) and $F(ab')_2$ fragments which can be generated by treating the antibody with an enzyme such as pepsin. The invention provides polyclonal and monoclonal antibodies. The term "monoclonal antibody" or "monoclonal antibody composition", as used herein, refers to a population of antibody molecules that contain only one species of an antigen binding site capable of immunoreacting with a particular epitope.

Polyclonal antibodies can be prepared as described above by immunizing a suitable subject with a polypeptide of the invention as an immunogen. The antibody titer in the immunized subject can be monitored over time by standard techniques, such as with an enzyme linked immunosorbent assay (ELISA) using immobilized polypeptide. If desired, the antibody molecules can be harvested or isolated from the subject (*e.g.*, from the blood or serum of the subject) and further purified by well-known techniques, such as protein A chromatography to obtain the IgG fraction. At an appropriate time after immunization, *e.g.*, when the specific antibody titers are highest, antibody-producing cells can be obtained from the subject and used to prepare monoclonal antibodies by standard techniques, such as the hybridoma technique originally described by Kohler and Milstein (1975) *Nature* 256:495-497, the human B cell hybridoma technique (see Kozbor *et al.*, 1983, *Immunol. Today* 4:72), the EBV-hybridoma technique (see Cole *et al.*, pp. 77-96 In *Monoclonal Antibodies and Cancer Therapy*, Alan R. Liss, Inc., 1985) or trioma techniques. The technology for producing hybridomas is well known (see generally *Current Protocols in Immunology,* Coligan *et al.* ed., John Wiley & Sons, New York, 1994). Hybridoma cells producing a monoclonal antibody of the invention are detected by screening the hybridoma culture supernatants for antibodies that bind the polypeptide of interest, *e.g.*, using a standard ELISA assay.

Alternative to preparing monoclonal antibody-secreting hybridomas, a monoclonal antibody directed against a polypeptide of the invention can be identified and isolated by screening a recombinant combinatorial immunoglobulin library (*e.g.*, an antibody phage display library) with the polypeptide of interest. Kits for generating and screening phage display libraries are commercially available (*e.g.*, the Pharmacia *Recombinant Phage Antibody System*, Catalog No. 27-9400-01; and the Stratagene *SurfZAP Phage Display Kit*, Catalog No. 240612). Additionally, examples of methods and reagents particularly amenable for use in generating and screening antibody display library can be found in, for example, U.S. Patent No. 5,223,409; PCT Publication No. WO 92/18619; PCT Publication No. WO 91/17271; PCT Publication No. WO 92/20791; PCT Publication No. WO 92/15679; PCT Publication No. WO 93/01288; PCT Publication No. WO 92/01047; PCT Publication No. WO 92/09690; PCT Publication No. WO 90/02809; Fuchs *et al.* (1991) *Bio/Technology* 9:1370-1372; Hay *et al.* (1992) *Hum. Antibod. Hybridomas* 3:81-85; Huse *et al.* (1989) *Science* 246:1275-1281; Griffiths *et al.* (1993) *EMBO J.* 12:725-734.

Additionally, recombinant antibodies, such as chimeric and humanized monoclonal antibodies, comprising both human and non-human portions, which can be made using standard recombinant DNA techniques, are within the scope of the invention. Such chimeric and humanized monoclonal antibodies can be produced by recombinant DNA techniques known in the art, for example using methods described in PCT Publication No. WO 87/02671; European Patent Application 184,187; European Patent Application 171,496; European Patent Application 173,494; PCT Publication No. WO 86/01533; U.S. Patent No. 4,816,567; European Patent Application 125,023; Better *et al.* (1988) *Science* 240:1041-1043; Liu *et al.* (1987) *Proc. Natl. Acad. Sci. USA* 84:3439-3443; Liu *et al.* (1987) *J. Immunol.* 139:3521- 3526; Sun *et al.* (1987) *Proc. Natl. Acad. Sci. USA* 84:214-218; Nishimura *et al.* (1987) *Cancer Res.* 47:999-1005; Wood *et al.* (1985) *Nature* 314:446-449; and Shaw *et al.* (1988) *J. Natl. Cancer Inst.* 80:1553-1559); Morrison (1985) *Science* 229:1202-1207; Oi *et al.* (1986) *Bio/Techniques* 4:214; U.S. Patent 5,225,539; Jones *et al.* (1986) *Nature* 321:552-525; Verhoeyan *et al.* (1988) *Science* 239:1534; and Beidler *et al.* (1988) *J. Immunol.* 141:4053-4060.

Completely human antibodies are particularly desirable for therapeutic treatment of human patients. Such antibodies can be produced using transgenic mice

which are incapable of expressing endogenous immunoglobulin heavy and light chains genes, but which can express human heavy and light chain genes. The transgenic mice are immunized in the normal fashion with a selected antigen, *e.g.*, all or a portion of a polypeptide corresponding to a marker of the invention. Monoclonal antibodies directed against the antigen can be obtained using conventional hybridoma technology. The human immunoglobulin transgenes harbored by the transgenic mice rearrange during B cell differentiation, and subsequently undergo class switching and somatic mutation. Thus, using such a technique, it is possible to produce therapeutically useful IgG, IgA and IgE antibodies. For an overview of this technology for producing human antibodies, see Lonberg and Huszar (1995) *Int. Rev. Immunol.* 13:65-93). For a detailed discussion of this technology for producing human antibodies and human monoclonal antibodies and protocols for producing such antibodies, see, *e.g.*, U.S. Patent 5,625,126; U.S. Patent 5,633,425; U.S. Patent 5,569,825; U.S. Patent 5,661,016; and U.S. Patent 5,545,806. In addition, companies such as Abgenix, Inc. (Freemont, CA), can be engaged to provide human antibodies directed against a selected antigen using technology similar to that described above.

Completely human antibodies which recognize a selected epitope can be generated using a technique referred to as "guided selection." In this approach a selected non-human monoclonal antibody, *e.g.*, a murine antibody, is used to guide the selection of a completely human antibody recognizing the same epitope (Jespers *et al.*, 1994, *Bio/technology* 12:899-903).

An antibody directed against a polypeptide corresponding to a marker of the invention (*e.g.*, a monoclonal antibody) can be used to isolate the polypeptide by standard techniques, such as affinity chromatography or immunoprecipitation. Moreover, such an antibody can be used to detect the marker (*e.g.*, in a cellular lysate or cell supernatant) in order to evaluate the level and pattern of expression of the marker. The antibodies can also be used diagnostically to monitor protein levels in tissues or body fluids (*e.g.* in an ovary-associated body fluid) as part of a clinical testing procedure, *e.g.*, to, for example, determine the efficacy of a given treatment regimen. Detection can be facilitated by coupling the antibody to a detectable substance. Examples of detectable substances include various enzymes, prosthetic groups, fluorescent materials, luminescent materials, bioluminescent materials, and radioactive materials. Examples of suitable enzymes include horseradish peroxidase, alkaline

phosphatase, β-galactosidase, or acetylcholinesterase; examples of suitable prosthetic group complexes include streptavidin/biotin and avidin/biotin; examples of suitable fluorescent materials include umbelliferone, fluorescein, fluorescein isothiocyanate, rhodamine, dichlorotriazinylamine fluorescein, dansyl chloride or phycoerythrin; an example of a luminescent material includes luminol; examples of bioluminescent materials include luciferase, luciferin, and aequorin, and examples of suitable radioactive material include ^{125}I, ^{131}I, ^{35}S or ^{3}H.

V. Recombinant Expression Vectors and Host Cells

Another aspect of the invention pertains to vectors, preferably expression vectors, containing a nucleic acid encoding a polypeptide corresponding to a marker of the invention (or a portion of such a polypeptide). As used herein, the term "vector" refers to a nucleic acid molecule capable of transporting another nucleic acid to which it has been linked. One type of vector is a "plasmid", which refers to a circular double stranded DNA loop into which additional DNA segments can be ligated. Another type of vector is a viral vector, wherein additional DNA segments can be ligated into the viral genome. Certain vectors are capable of autonomous replication in a host cell into which they are introduced (*e.g.*, bacterial vectors having a bacterial origin of replication and episomal mammalian vectors). Other vectors (*e.g.*, non-episomal mammalian vectors) are integrated into the genome of a host cell upon introduction into the host cell, and thereby are replicated along with the host genome. Moreover, certain vectors, namely expression vectors, are capable of directing the expression of genes to which they are operably linked. In general, expression vectors of utility in recombinant DNA techniques are often in the form of plasmids (vectors). However, the invention is intended to include such other forms of expression vectors, such as viral vectors (*e.g.*, replication defective retroviruses, adenoviruses and adeno-associated viruses), which serve equivalent functions.

The recombinant expression vectors of the invention comprise a nucleic acid of the invention in a form suitable for expression of the nucleic acid in a host cell. This means that the recombinant expression vectors include one or more regulatory sequences, selected on the basis of the host cells to be used for expression, which is operably linked to the nucleic acid sequence to be expressed. Within a recombinant expression vector, "operably linked" is intended to mean that the nucleotide sequence of

interest is linked to the regulatory sequence(s) in a manner which allows for expression of the nucleotide sequence (*e.g.*, in an *in vitro* transcription/translation system or in a host cell when the vector is introduced into the host cell). The term "regulatory sequence" is intended to include promoters, enhancers and other expression control elements (*e.g.*, polyadenylation signals). Such regulatory sequences are described, for example, in Goeddel, *Methods in Enzymology: Gene Expression Technology* vol.185, Academic Press, San Diego, CA (1991). Regulatory sequences include those which direct constitutive expression of a nucleotide sequence in many types of host cell and those which direct expression of the nucleotide sequence only in certain host cells (*e.g.*, tissue-specific regulatory sequences). It will be appreciated by those skilled in the art that the design of the expression vector can depend on such factors as the choice of the host cell to be transformed, the level of expression of protein desired, and the like. The expression vectors of the invention can be introduced into host cells to thereby produce proteins or peptides, including fusion proteins or peptides, encoded by nucleic acids as described herein.

The recombinant expression vectors of the invention can be designed for expression of a polypeptide corresponding to a marker of the invention in prokaryotic (*e.g.*, *E. coli*) or eukaryotic cells (*e.g.*, insect cells {using baculovirus expression vectors}, yeast cells or mammalian cells). Suitable host cells are discussed further in Goeddel, *supra*. Alternatively, the recombinant expression vector can be transcribed and translated *in vitro*, for example using T7 promoter regulatory sequences and T7 polymerase.

Expression of proteins in prokaryotes is most often carried out in *E. coli* with vectors containing constitutive or inducible promoters directing the expression of either fusion or non-fusion proteins. Fusion vectors add a number of amino acids to a protein encoded therein, usually to the amino terminus of the recombinant protein. Such fusion vectors typically serve three purposes: 1) to increase expression of recombinant protein; 2) to increase the solubility of the recombinant protein; and 3) to aid in the purification of the recombinant protein by acting as a ligand in affinity purification. Often, in fusion expression vectors, a proteolytic cleavage site is introduced at the junction of the fusion moiety and the recombinant protein to enable separation of the recombinant protein from the fusion moiety subsequent to purification of the fusion protein. Such enzymes, and their cognate recognition sequences, include Factor Xa,

thrombin and enterokinase. Typical fusion expression vectors include pGEX (Pharmacia Biotech Inc; Smith and Johnson, 1988, *Gene* 67:31-40), pMAL (New England Biolabs, Beverly, MA) and pRIT5 (Pharmacia, Piscataway, NJ) which fuse glutathione S-transferase (GST), maltose E binding protein, or protein A, respectively, to the target recombinant protein.

Examples of suitable inducible non-fusion *E. coli* expression vectors include pTrc (Amann *et al.*, 1988, *Gene* 69:301-315) and pET 11d (Studier *et al.*, p. 60-89, In *Gene Expression Technology: Methods in Enzymology* vol.185, Academic Press, San Diego, CA, 1991). Target gene expression from the pTrc vector relies on host RNA polymerase transcription from a hybrid trp-lac fusion promoter. Target gene expression from the pET 11d vector relies on transcription from a T7 gn10-lac fusion promoter mediated by a co-expressed viral RNA polymerase (T7 gn1). This viral polymerase is supplied by host strains BL21(DE3) or HMS174(DE3) from a resident prophage harboring a T7 gn1 gene under the transcriptional control of the lacUV 5 promoter.

One strategy to maximize recombinant protein expression in *E. coli* is to express the protein in a host bacteria with an impaired capacity to proteolytically cleave the recombinant protein (Gottesman, p. 119-128, In *Gene Expression Technology: Methods in Enzymology* vol. 185, Academic Press, San Diego, CA, 1990. Another strategy is to alter the nucleic acid sequence of the nucleic acid to be inserted into an expression vector so that the individual codons for each amino acid are those preferentially utilized in *E. coli* (Wada *et al.*, 1992, *Nucleic Acids Res.* 20:2111-2118). Such alteration of nucleic acid sequences of the invention can be carried out by standard DNA synthesis techniques.

In another embodiment, the expression vector is a yeast expression vector. Examples of vectors for expression in yeast *S. cerevisiae* include pYepSec1 (Baldari *et al.*, 1987, *EMBO J.* 6:229-234), pMFa (Kurjan and Herskowitz, 1982, *Cell* 30:933-943), pJRY88 (Schultz *et al.*, 1987, *Gene* 54:113-123), pYES2 (Invitrogen Corporation, San Diego, CA), and pPicZ (Invitrogen Corp, San Diego, CA).

Alternatively, the expression vector is a baculovirus expression vector. Baculovirus vectors available for expression of proteins in cultured insect cells (*e.g.*, Sf 9 cells) include the pAc series (Smith *et al.*, 1983, *Mol. Cell Biol.* 3:2156-2165) and the pVL series (Lucklow and Summers, 1989, *Virology* 170:31-39).

In yet another embodiment, a nucleic acid of the invention is expressed in mammalian cells using a mammalian expression vector. Examples of mammalian expression vectors include pCDM8 (Seed, 1987, *Nature* 329:840) and pMT2PC (Kaufman *et al.,* 1987, *EMBO J.* 6:187-195). When used in mammalian cells, the expression vector's control functions are often provided by viral regulatory elements. For example, commonly used promoters are derived from polyoma, Adenovirus 2, cytomegalovirus and Simian Virus 40. For other suitable expression systems for both prokaryotic and eukaryotic cells see chapters 16 and 17 of Sambrook *et al.*, *supra.*

In another embodiment, the recombinant mammalian expression vector is capable of directing expression of the nucleic acid preferentially in a particular cell type (*e.g.*, tissue-specific regulatory elements are used to express the nucleic acid). Tissue-specific regulatory elements are known in the art. Non-limiting examples of suitable tissue-specific promoters include the albumin promoter (liver-specific; Pinkert *et al.*, 1987, *Genes Dev.* 1:268-277), lymphoid-specific promoters (Calame and Eaton, 1988, *Adv. Immunol.* 43:235-275), in particular promoters of T cell receptors (Winoto and Baltimore, 1989, *EMBO J.* 8:729-733) and immunoglobulins (Banerji *et al.,* 1983, *Cell* 33:729-740; Queen and Baltimore, 1983, *Cell* 33:741-748), neuron-specific promoters (*e.g.*, the neurofilament promoter; Byrne and Ruddle, 1989, *Proc. Natl. Acad. Sci. USA* 86:5473-5477), pancreas-specific promoters (Edlund *et al.,* 1985, *Science* 230:912-916), and mammary gland-specific promoters (*e.g.*, milk whey promoter; U.S. Patent No. 4,873,316 and European Application Publication No. 264,166). Developmentally-regulated promoters are also encompassed, for example the murine hox promoters (Kessel and Gruss, 1990, *Science* 249:374-379) and the α-fetoprotein promoter (Camper and Tilghman, 1989, *Genes Dev.* 3:537-546).

The invention further provides a recombinant expression vector comprising a DNA molecule of the invention cloned into the expression vector in an antisense orientation. That is, the DNA molecule is operably linked to a regulatory sequence in a manner which allows for expression (by transcription of the DNA molecule) of an RNA molecule which is antisense to the mRNA encoding a polypeptide of the invention. Regulatory sequences operably linked to a nucleic acid cloned in the antisense orientation can be chosen which direct the continuous expression of the antisense RNA molecule in a variety of cell types, for instance viral promoters and/or enhancers, or regulatory sequences can be chosen which direct constitutive, tissue-

specific or cell type specific expression of antisense RNA. The antisense expression vector can be in the form of a recombinant plasmid, phagemid, or attenuated virus in which antisense nucleic acids are produced under the control of a high efficiency regulatory region, the activity of which can be determined by the cell type into which the vector is introduced. For a discussion of the regulation of gene expression using antisense genes see Weintraub *et al.*, 1986, *Trends in Genetics*, Vol. 1(1).

Another aspect of the invention pertains to host cells into which a recombinant expression vector of the invention has been introduced. The terms "host cell" and "recombinant host cell" are used interchangeably herein. It is understood that such terms refer not only to the particular subject cell but to the progeny or potential progeny of such a cell. Because certain modifications may occur in succeeding generations due to either mutation or environmental influences, such progeny may not, in fact, be identical to the parent cell, but are still included within the scope of the term as used herein.

A host cell can be any prokaryotic (*e.g.*, *E. coli*) or eukaryotic cell (*e.g.*, insect cells, yeast or mammalian cells).

Vector DNA can be introduced into prokaryotic or eukaryotic cells via conventional transformation or transfection techniques. As used herein, the terms "transformation" and "transfection" are intended to refer to a variety of art-recognized techniques for introducing foreign nucleic acid into a host cell, including calcium phosphate or calcium chloride co-precipitation, DEAE-dextran-mediated transfection, lipofection, or electroporation. Suitable methods for transforming or transfecting host cells can be found in Sambrook, *et al.* (*supra*), and other laboratory manuals.

For stable transfection of mammalian cells, it is known that, depending upon the expression vector and transfection technique used, only a small fraction of cells may integrate the foreign DNA into their genome. In order to identify and select these integrants, a gene that encodes a selectable marker (*e.g.*, for resistance to antibiotics) is generally introduced into the host cells along with the gene of interest. Preferred selectable markers include those which confer resistance to drugs, such as G418, hygromycin and methotrexate. Cells stably transfected with the introduced nucleic acid can be identified by drug selection (*e.g.*, cells that have incorporated the selectable marker gene will survive, while the other cells die).

A host cell of the invention, such as a prokaryotic or eukaryotic host cell in culture, can be used to produce a polypeptide corresponding to a marker of the invention. Accordingly, the invention further provides methods for producing a polypeptide corresponding to a marker of the invention using the host cells of the invention. In one embodiment, the method comprises culturing the host cell of invention (into which a recombinant expression vector encoding a polypeptide of the invention has been introduced) in a suitable medium such that the marker is produced. In another embodiment, the method further comprises isolating the marker polypeptide from the medium or the host cell.

The host cells of the invention can also be used to produce nonhuman transgenic animals. For example, in one embodiment, a host cell of the invention is a fertilized oocyte or an embryonic stem cell into which a sequences encoding a polypeptide corresponding to a marker of the invention have been introduced. Such host cells can then be used to create non-human transgenic animals in which exogenous sequences encoding a marker protein of the invention have been introduced into their genome or homologous recombinant animals in which endogenous gene(s) encoding a polypeptide corresponding to a marker of the invention sequences have been altered. Such animals are useful for studying the function and/or activity of the polypeptide corresponding to the marker and for identifying and/or evaluating modulators of polypeptide activity. As used herein, a "transgenic animal" is a non-human animal, preferably a mammal, more preferably a rodent such as a rat or mouse, in which one or more of the cells of the animal includes a transgene. Other examples of transgenic animals include non-human primates, sheep, dogs, cows, goats, chickens, amphibians, etc. A transgene is exogenous DNA which is integrated into the genome of a cell from which a transgenic animal develops and which remains in the genome of the mature animal, thereby directing the expression of an encoded gene product in one or more cell types or tissues of the transgenic animal. As used herein, an "homologous recombinant animal" is a non-human animal, preferably a mammal, more preferably a mouse, in which an endogenous gene has been altered by homologous recombination between the endogenous gene and an exogenous DNA molecule introduced into a cell of the animal, *e.g.*, an embryonic cell of the animal, prior to development of the animal.

A transgenic animal of the invention can be created by introducing a nucleic acid encoding a polypeptide corresponding to a marker of the invention into the

male pronuclei of a fertilized oocyte, *e.g.*, by microinjection, retroviral infection, and allowing the oocyte to develop in a pseudopregnant female foster animal. Intronic sequences and polyadenylation signals can also be included in the transgene to increase the efficiency of expression of the transgene. A tissue-specific regulatory sequence(s) can be operably linked to the transgene to direct expression of the polypeptide of the invention to particular cells. Methods for generating transgenic animals via embryo manipulation and microinjection, particularly animals such as mice, have become conventional in the art and are described, for example, in U.S. Patent Nos. 4,736,866 and 4,870,009, U.S. Patent No. 4,873,191 and in Hogan, *Manipulating the Mouse Embryo*, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y., 1986. Similar methods are used for production of other transgenic animals. A transgenic founder animal can be identified based upon the presence of the transgene in its genome and/or expression of mRNA encoding the transgene in tissues or cells of the animals. A transgenic founder animal can then be used to breed additional animals carrying the transgene. Moreover, transgenic animals carrying the transgene can further be bred to other transgenic animals carrying other transgenes.

To create an homologous recombinant animal, a vector is prepared which contains at least a portion of a gene encoding a polypeptide corresponding to a marker of the invention into which a deletion, addition or substitution has been introduced to thereby alter, *e.g.*, functionally disrupt, the gene. In a preferred embodiment, the vector is designed such that, upon homologous recombination, the endogenous gene is functionally disrupted (*i.e.*, no longer encodes a functional protein; also referred to as a "knock out" vector). Alternatively, the vector can be designed such that, upon homologous recombination, the endogenous gene is mutated or otherwise altered but still encodes functional protein (*e.g.*, the upstream regulatory region can be altered to thereby alter the expression of the endogenous protein). In the homologous recombination vector, the altered portion of the gene is flanked at its 5' and 3' ends by additional nucleic acid of the gene to allow for homologous recombination to occur between the exogenous gene carried by the vector and an endogenous gene in an embryonic stem cell. The additional flanking nucleic acid sequences are of sufficient length for successful homologous recombination with the endogenous gene. Typically, several kilobases of flanking DNA (both at the 5' and 3' ends) are included in the vector (see, *e.g.*, Thomas and Capecchi, 1987, *Cell* 51:503 for a description of homologous

recombination vectors). The vector is introduced into an embryonic stem cell line (*e.g.*, by electroporation) and cells in which the introduced gene has homologously recombined with the endogenous gene are selected (see, *e.g.*, Li *et al.*, 1992, *Cell* 69:915). The selected cells are then injected into a blastocyst of an animal (*e.g.*, a mouse) to form aggregation chimeras (see, *e.g.*, Bradley, *Teratocarcinomas and Embryonic Stem Cells: A Practical Approach*, Robertson, Ed., IRL, Oxford, 1987, pp. 113-152). A chimeric embryo can then be implanted into a suitable pseudopregnant female foster animal and the embryo brought to term. Progeny harboring the homologously recombined DNA in their germ cells can be used to breed animals in which all cells of the animal contain the homologously recombined DNA by germline transmission of the transgene. Methods for constructing homologous recombination vectors and homologous recombinant animals are described further in Bradley (1991) *Current Opinion in Bio/Technology* 2:823-829 and in PCT Publication NOS. WO 90/11354, WO 91/01140, WO 92/0968, and WO 93/04169.

In another embodiment, transgenic non-human animals can be produced which contain selected systems which allow for regulated expression of the transgene. One example of such a system is the *cre/loxP* recombinase system of bacteriophage P1. For a description of the *cre/loxP* recombinase system, see, *e.g.*, Lakso *et al.* (1992) *Proc. Natl. Acad. Sci. USA* 89:6232-6236. Another example of a recombinase system is the FLP recombinase system of *Saccharomyces cerevisiae* (O'Gorman *et al.*, 1991, *Science* 251:1351-1355). If a *cre/loxP* recombinase system is used to regulate expression of the transgene, animals containing transgenes encoding both the *Cre* recombinase and a selected protein are required. Such animals can be provided through the construction of "double" transgenic animals, *e.g.*, by mating two transgenic animals, one containing a transgene encoding a selected protein and the other containing a transgene encoding a recombinase.

Clones of the non-human transgenic animals described herein can also be produced according to the methods described in Wilmut *et al.* (1997) *Nature* 385:810-813 and PCT Publication NOS. WO 97/07668 and WO 97/07669.

VI. Pharmaceutical Compositions

The nucleic acid molecules, polypeptides, and antibodies (also referred to herein as "active compounds") corresponding to a marker of the invention can be incorporated into pharmaceutical compositions suitable for administration. Such compositions typically comprise the nucleic acid molecule, protein, or antibody and a pharmaceutically acceptable carrier. As used herein the language "pharmaceutically acceptable carrier" is intended to include any and all solvents, dispersion media, coatings, antibacterial and antifungal agents, isotonic and absorption delaying agents, and the like, compatible with pharmaceutical administration. The use of such media and agents for pharmaceutically active substances is well known in the art. Except insofar as any conventional media or agent is incompatible with the active compound, use thereof in the compositions is contemplated. Supplementary active compounds can also be incorporated into the compositions.

The invention includes methods for preparing pharmaceutical compositions for modulating the expression or activity of a polypeptide or nucleic acid corresponding to a marker of the invention. Such methods comprise formulating a pharmaceutically acceptable carrier with an agent which modulates expression or activity of a polypeptide or nucleic acid corresponding to a marker of the invention. Such compositions can further include additional active agents. Thus, the invention further includes methods for preparing a pharmaceutical composition by formulating a pharmaceutically acceptable carrier with an agent which modulates expression or activity of a polypeptide or nucleic acid corresponding to a marker of the invention and one or more additional active compounds.

The invention also provides methods (also referred to herein as "screening assays") for identifying modulators, *i.e.*, candidate or test compounds or agents (*e.g.*, peptides, peptidomimetics, peptoids, small molecules or other drugs) which (a) bind to the marker, or (b) have a modulatory (*e.g.*, stimulatory or inhibitory) effect on the activity of the marker or, more specifically, (c) have a modulatory effect on the interactions of the marker with one or more of its natural substrates (*e.g.*, peptide, protein, hormone, co-factor, or nucleic acid), or (d) have a modulatory effect on the expression of the marker. Such assays typically comprise a reaction between the marker and one or more assay components. The other components may be either the test

compound itself, or a combination of test compound and a natural binding partner of the marker.

The test compounds of the present invention may be obtained from any available source, including systematic libraries of natural and/or synthetic compounds. Test compounds may also be obtained by any of the numerous approaches in combinatorial library methods known in the art, including: biological libraries; peptoid libraries (libraries of molecules having the functionalities of peptides, but with a novel, non-peptide backbone which are resistant to enzymatic degradation but which nevertheless remain bioactive; see, *e.g.*, Zuckermann *et al.*, 1994, *J. Med. Chem.* 37:2678-85); spatially addressable parallel solid phase or solution phase libraries; synthetic library methods requiring deconvolution; the 'one-bead one-compound' library method; and synthetic library methods using affinity chromatography selection. The biological library and peptoid library approaches are limited to peptide libraries, while the other four approaches are applicable to peptide, non-peptide oligomer or small molecule libraries of compounds (Lam, 1997, *Anticancer Drug Des.* 12:145).

Examples of methods for the synthesis of molecular libraries can be found in the art, for example in: DeWitt *et al.* (1993) *Proc. Natl. Acad. Sci. U.S.A.* 90:6909; Erb *et al.* (1994) *Proc. Natl. Acad. Sci. USA* 91:11422; Zuckermann *et al.* (1994). *J. Med. Chem.* 37:2678; Cho *et al.* (1993) *Science* 261:1303; Carrell *et al.* (1994) *Angew. Chem. Int. Ed. Engl.* 33:2059; Carell *et al.* (1994) *Angew. Chem. Int. Ed. Engl.* 33:2061; and in Gallop *et al.* (1994) *J. Med. Chem.* 37:1233.

Libraries of compounds may be presented in solution (*e.g.*, Houghten, 1992, *Biotechniques* 13:412-421), or on beads (Lam, 1991, *Nature* 354:82-84), chips (Fodor, 1993, *Nature* 364:555-556), bacteria and/or spores, (Ladner, USP 5,223,409), plasmids (Cull *et al*, 1992, *Proc Natl Acad Sci USA* 89:1865-1869) or on phage (Scott and Smith, 1990, *Science* 249:386-390; Devlin, 1990, *Science* 249:404-406; Cwirla *et al*, 1990, *Proc. Natl. Acad. Sci*, 87:6378-6382; Felici, 1991, *J. Mol. Biol.* 222:301-310; Ladner, *supra.*).

In one embodiment, the invention provides assays for screening candidate or test compounds which are substrates of a marker or biologically active portion thereof. In another embodiment, the invention provides assays for screening candidate or test compounds which bind to a marker or biologically active portion thereof. Determining the ability of the test compound to directly bind to a marker can be

accomplished, for example, by coupling the compound with a radioisotope or enzymatic label such that binding of the compound to the marker can be determined by detecting the labeled marker compound in a complex. For example, compounds (*e.g.*, marker substrates) can be labeled with ^{125}I, ^{35}S, ^{14}C, or ^{3}H, either directly or indirectly, and the radioisotope detected by direct counting of radioemission or by scintillation counting. Alternatively, assay components can be enzymatically labeled with, for example, horseradish peroxidase, alkaline phosphatase, or luciferase, and the enzymatic label detected by determination of conversion of an appropriate substrate to product.

In another embodiment, the invention provides assays for screening candidate or test compounds which modulate the activity of a marker or a biologically active portion thereof. In all likelihood, the marker can, *in vivo*, interact with one or more molecules, such as but not limited to, peptides, proteins, hormones, cofactors and nucleic acids. For the purposes of this discussion, such cellular and extracellular molecules are referred to herein as "binding partners" or marker "substrate".

One necessary embodiment of the invention in order to facilitate such screening is the use of the marker to identify its natural *in vivo* binding partners. There are many ways to accomplish this which are known to one skilled in the art. One example is the use of the marker protein as "bait protein" in a two-hybrid assay or three-hybrid assay (see, *e.g.*, U.S. Patent No. 5,283,317; Zervos *et al*, 1993, *Cell* 72:223-232; Madura *et al*, 1993, *J. Biol. Chem.* 268:12046-12054; Bartel *et al* ,1993, *Biotechniques* 14:920-924; Iwabuchi *et al*, 1993 *Oncogene* 8:1693-1696; Brent WO94/10300) in order to identify other proteins which bind to or interact with the marker (binding partners) and, therefore, are possibly involved in the natural function of the marker. Such marker binding partners are also likely to be involved in the propagation of signals by the marker or downstream elements of a marker-mediated signaling pathway. Alternatively, such marker binding partners may also be found to be inhibitors of the marker.

The two-hybrid system is based on the modular nature of most transcription factors, which consist of separable DNA-binding and activation domains. Briefly, the assay utilizes two different DNA constructs. In one construct, the gene that encodes a marker protein fused to a gene encoding the DNA binding domain of a known transcription factor (*e.g.*, GAL-4). In the other construct, a DNA sequence, from a library of DNA sequences, that encodes an unidentified protein ("prey" or "sample") is fused to a gene that codes for the activation domain of the known transcription factor. If

the "bait" and the "prey"-proteins are able to interact, *in vivo,* forming a marker-dependent complex, the DNA-binding and activation domains of the transcription factor are brought into close proximity. This proximity allows transcription of a reporter gene (*e.g.,* LacZ) which is operably linked to a transcriptional regulatory site responsive to the transcription factor. Expression of the reporter gene can be readily detected and cell colonies containing the functional transcription factor can be isolated and used to obtain the cloned gene which encodes the protein which interacts with the marker protein.

In a further embodiment, assays may be devised through the use of the invention for the purpose of identifying compounds which modulate (*e.g.,* affect either positively or negatively) interactions between a marker and its substrates and/or binding partners. Such compounds can include, but are not limited to, molecules such as antibodies, peptides, hormones, oligonucleotides, nucleic acids, and analogs thereof. Such compounds may also be obtained from any available source, including systematic libraries of natural and/or synthetic compounds. The preferred assay components for use in this embodiment is an ovarian cancer marker identified herein, the known binding partner and/or substrate of same, and the test compound. Test compounds can be supplied from any source.

The basic principle of the assay systems used to identify compounds that interfere with the interaction between the marker and its binding partner involves preparing a reaction mixture containing the marker and its binding partner under conditions and for a time sufficient to allow the two products to interact and bind, thus forming a complex. In order to test an agent for inhibitory activity, the reaction mixture is prepared in the presence and absence of the test compound. The test compound can be initially included in the reaction mixture, or can be added at a time subsequent to the addition of the marker and its binding partner. Control reaction mixtures are incubated without the test compound or with a placebo. The formation of any complexes between the marker and its binding partner is then detected. The formation of a complex in the control reaction, but less or no such formation in the reaction mixture containing the test compound, indicates that the compound interferes with the interaction of the marker and its binding partner. Conversely, the formation of more complex in the presence of compound than in the control reaction indicates that the compound may enhance interaction of the marker and its binding partner.

The assay for compounds that interfere with the interaction of the marker with its binding partner may be conducted in a heterogeneous or homogeneous format. Heterogeneous assays involve anchoring either the marker or its binding partner onto a solid phase and detecting complexes anchored to the solid phase at the end of the reaction. In homogeneous assays, the entire reaction is carried out in a liquid phase. In either approach, the order of addition of reactants can be varied to obtain different information about the compounds being tested. For example, test compounds that interfere with the interaction between the markers and the binding partners (*e.g.*, by competition) can be identified by conducting the reaction in the presence of the test substance, *i.e.*, by adding the test substance to the reaction mixture prior to or simultaneously with the marker and its interactive binding partner. Alternatively, test compounds that disrupt preformed complexes, *e.g.*, compounds with higher binding constants that displace one of the components from the complex, can be tested by adding the test compound to the reaction mixture after complexes have been formed. The various formats are briefly described below.

In a heterogeneous assay system, either the marker or its binding partner is anchored onto a solid surface or matrix, while the other corresponding non-anchored component may be labeled, either directly or indirectly. In practice, microtitre plates are often utilized for this approach. The anchored species can be immobilized by a number of methods, either non-covalent or covalent, that are typically well known to one who practices the art. Non-covalent attachment can often be accomplished simply by coating the solid surface with a solution of the marker or its binding partner and drying. Alternatively, an immobilized antibody specific for the assay component to be anchored can be used for this purpose. Such surfaces can often be prepared in advance and stored.

In related embodiments, a fusion protein can be provided which adds a domain that allows one or both of the assay components to be anchored to a matrix. For example, glutathione-S-transferase/marker fusion proteins or glutathione-S-transferase/binding partner can be adsorbed onto glutathione sepharose beads (Sigma Chemical, St. Louis, MO) or glutathione derivatized microtiter plates, which are then combined with the test compound or the test compound and either the non-adsorbed marker or its binding partner, and the mixture incubated under conditions conducive to complex formation (*e.g.*, physiological conditions). Following incubation, the beads or microtiter plate wells are washed to remove any unbound assay components, the

immobilized complex assessed either directly or indirectly, for example, as described above. Alternatively, the complexes can be dissociated from the matrix, and the level of marker binding or activity determined using standard techniques.

Other techniques for immobilizing proteins on matrices can also be used in the screening assays of the invention. For example, either a marker or a marker binding partner can be immobilized utilizing conjugation of biotin and streptavidin. Biotinylated marker protein or target molecules can be prepared from biotin-NHS (N-hydroxy-succinimide) using techniques known in the art (*e.g.*, biotinylation kit, Pierce Chemicals, Rockford, IL), and immobilized in the wells of streptavidin-coated 96 well plates (Pierce Chemical). In certain embodiments, the protein-immobilized surfaces can be prepared in advance and stored.

In order to conduct the assay, the corresponding partner of the immobilized assay component is exposed to the coated surface with or without the test compound. After the reaction is complete, unreacted assay components are removed (*e.g.*, by washing) and any complexes formed will remain immobilized on the solid surface. The detection of complexes anchored on the solid surface can be accomplished in a number of ways. Where the non-immobilized component is pre-labeled, the detection of label immobilized on the surface indicates that complexes were formed. Where the non-immobilized component is not pre-labeled, an indirect label can be used to detect complexes anchored on the surface; *e.g.*, using a labeled antibody specific for the initially non-immobilized species (the antibody, in turn, can be directly labeled or indirectly labeled with, *e.g.*, a labeled anti-Ig antibody). Depending upon the order of addition of reaction components, test compounds which modulate (inhibit or enhance) complex formation or which disrupt preformed complexes can be detected.

In an alternate embodiment of the invention, a homogeneous assay may be used. This is typically a reaction, analogous to those mentioned above, which is conducted in a liquid phase in the presence or absence of the test compound. The formed complexes are then separated from unreacted components, and the amount of complex formed is determined. As mentioned for heterogeneous assay systems, the order of addition of reactants to the liquid phase can yield information about which test compounds modulate (inhibit or enhance) complex formation and which disrupt preformed complexes.

In such a homogeneous assay, the reaction products may be separated from unreacted assay components by any of a number of standard techniques, including but not limited to: differential centrifugation, chromatography, electrophoresis and immunoprecipitation. In differential centrifugation, complexes of molecules may be separated from uncomplexed molecules through a series of centrifugal steps, due to the different sedimentation equilibria of complexes based on their different sizes and densities (see, for example, Rivas, G., and Minton, A.P., *Trends Biochem Sci* 1993 Aug;18(8):284-7). Standard chromatographic techniques may also be utilized to separate complexed molecules from uncomplexed ones. For example, gel filtration chromatography separates molecules based on size, and through the utilization of an appropriate gel filtration resin in a column format, for example, the relatively larger complex may be separated from the relatively smaller uncomplexed components. Similarly, the relatively different charge properties of the complex as compared to the uncomplexed molecules may be exploited to differentially separate the complex from the remaining individual reactants, for example through the use of ion-exchange chromatography resins. Such resins and chromatographic techniques are well known to one skilled in the art (see, *e.g.,* Heegaard, 1998, *J Mol. Recognit.* 11:141-148; Hage and Tweed, 1997, *J. Chromatogr. B. Biomed. Sci. Appl.,* 699:499-525). Gel electrophoresis may also be employed to separate complexed molecules from unbound species (see, *e.g.,* Ausubel *et al* (eds.), In: Current Protocols in Molecular Biology, J. Wiley & Sons, New York. 1999). In this technique, protein or nucleic acid complexes are separated based on size or charge, for example. In order to maintain the binding interaction during the electrophoretic process, nondenaturing gels in the absence of reducing agent are typically preferred, but conditions appropriate to the particular interactants will be well known to one skilled in the art. Immunoprecipitation is another common technique utilized for the isolation of a protein-protein complex from solution (see, *e.g.,* Ausubel *et al* (eds.), In: Current Protocols in Molecular Biology, J. Wiley & Sons, New York. 1999). In this technique, all proteins binding to an antibody specific to one of the binding molecules are precipitated from solution by conjugating the antibody to a polymer bead that may be readily collected by centrifugation. The bound assay components are released from the beads (through a specific proteolysis event or other technique well known in the art which will not disturb the protein-protein interaction in the complex), and a second immunoprecipitation step is performed, this time utilizing

antibodies specific for the correspondingly different interacting assay component. In this manner, only formed complexes should remain attached to the beads. Variations in complex formation in both the presence and the absence of a test compound can be compared, thus offering information about the ability of the compound to modulate interactions between the marker and its binding partner.

Also within the scope of the present invention are methods for direct detection of interactions between the marker and its natural binding partner and/or a test compound in a homogeneous or heterogeneous assay system without further sample manipulation. For example, the technique of fluorescence energy transfer may be utilized (see, *e.g.*, Lakowicz *et al*, U.S. Patent No. 5,631,169; Stavrianopoulos *et al*, U.S. Patent No. 4,868,103). Generally, this technique involves the addition of a fluorophore label on a first 'donor' molecule (*e.g.*, marker or test compound) such that its emitted fluorescent energy will be absorbed by a fluorescent label on a second, 'acceptor' molecule (*e.g.*, marker or test compound), which in turn is able to fluoresce due to the absorbed energy. Alternately, the 'donor' protein molecule may simply utilize the natural fluorescent energy of tryptophan residues. Labels are chosen that emit different wavelengths of light, such that the 'acceptor' molecule label may be differentiated from that of the 'donor'. Since the efficiency of energy transfer between the labels is related to the distance separating the molecules, spatial relationships between the molecules can be assessed. In a situation in which binding occurs between the molecules, the fluorescent emission of the 'acceptor' molecule label in the assay should be maximal. An FET binding event can be conveniently measured through standard fluorometric detection means well known in the art (*e.g.*, using a fluorimeter). A test substance which either enhances or hinders participation of one of the species in the preformed complex will result in the generation of a signal variant to that of background. In this way, test substances that modulate interactions between a marker and its binding partner can be identified in controlled assays.

In another embodiment, modulators of marker expression are identified in a method wherein a cell is contacted with a candidate compound and the expression of mRNA or protein, corresponding to a marker in the cell, is determined. The level of expression of mRNA or protein in the presence of the candidate compound is compared to the level of expression of mRNA or protein in the absence of the candidate compound. The candidate compound can then be identified as a modulator of marker

expression based on this comparison. For example, when expression of marker mRNA or protein is greater (statistically significantly greater) in the presence of the candidate compound than in its absence, the candidate compound is identified as a stimulator of marker mRNA or protein expression. Conversely, when expression of marker mRNA or protein is less (statistically significantly less) in the presence of the candidate compound than in its absence, the candidate compound is identified as an inhibitor of marker mRNA or protein expression. The level of marker mRNA or protein expression in the cells can be determined by methods described herein for detecting marker mRNA or protein.

In another aspect, the invention pertains to a combination of two or more of the assays described herein. For example, a modulating agent can be identified using a cell-based or a cell free assay, and the ability of the agent to modulate the activity of a marker protein can be further confirmed *in vivo*, *e.g.*, in a whole animal model for cellular transformation and/or tumorigenesis.

This invention further pertains to novel agents identified by the above-described screening assays. Accordingly, it is within the scope of this invention to further use an agent identified as described herein in an appropriate animal model. For example, an agent identified as described herein (*e.g.*, an marker modulating agent, an antisense marker nucleic acid molecule, an marker-specific antibody, or an marker-binding partner) can be used in an animal model to determine the efficacy, toxicity, or side effects of treatment with such an agent. Alternatively, an agent identified as described herein can be used in an animal model to determine the mechanism of action of such an agent. Furthermore, this invention pertains to uses of novel agents identified by the above-described screening assays for treatments as described herein.

It is understood that appropriate doses of small molecule agents and protein or polypeptide agents depends upon a number of factors within the knowledge of the ordinarily skilled physician, veterinarian, or researcher. The dose(s) of these agents will vary, for example, depending upon the identity, size, and condition of the subject or sample being treated, further depending upon the route by which the composition is to be administered, if applicable, and the effect which the practitioner desires the agent to have upon the nucleic acid or polypeptide of the invention. Exemplary doses of a small molecule include milligram or microgram amounts per kilogram of subject or sample weight (*e.g.* about 1 microgram per kilogram to about 500 milligrams per kilogram,

about 100 micrograms per kilogram to about 5 milligrams per kilogram, or about 1 microgram per kilogram to about 50 micrograms per kilogram). Exemplary doses of a protein or polypeptide include gram, milligram or microgram amounts per kilogram of subject or sample weight (*e.g.* about 1 microgram per kilogram to about 5 grams per kilogram, about 100 micrograms per kilogram to about 500 milligrams per kilogram, or about 1 milligram per kilogram to about 50 milligrams per kilogram). It is furthermore understood that appropriate doses of one of these agents depend upon the potency of the agent with respect to the expression or activity to be modulated. Such appropriate doses can be determined using the assays described herein. When one or more of these agents is to be administered to an animal (*e.g.* a human) in order to modulate expression or activity of a polypeptide or nucleic acid of the invention, a physician, veterinarian, or researcher can, for example, prescribe a relatively low dose at first, subsequently increasing the dose until an appropriate response is obtained. In addition, it is understood that the specific dose level for any particular animal subject will depend upon a variety of factors including the activity of the specific agent employed, the age, body weight, general health, gender, and diet of the subject, the time of administration, the route of administration, the rate of excretion, any drug combination, and the degree of expression or activity to be modulated.

A pharmaceutical composition of the invention is formulated to be compatible with its intended route of administration. Examples of routes of administration include parenteral, *e.g.*, intravenous, intradermal, subcutaneous, oral (*e.g.*, inhalation), transdermal (topical), transmucosal, and rectal administration. Solutions or suspensions used for parenteral, intradermal, or subcutaneous application can include the following components: a sterile diluent such as water for injection, saline solution, fixed oils, polyethylene glycols, glycerine, propylene glycol or other synthetic solvents; antibacterial agents such as benzyl alcohol or methyl parabens; antioxidants such as ascorbic acid or sodium bisulfite; chelating agents such as ethylenediamine-tetraacetic acid; buffers such as acetates, citrates or phosphates and agents for the adjustment of tonicity such as sodium chloride or dextrose. pH can be adjusted with acids or bases, such as hydrochloric acid or sodium hydroxide. The parenteral preparation can be enclosed in ampules, disposable syringes or multiple dose vials made of glass or plastic.

Pharmaceutical compositions suitable for injectable use include sterile aqueous solutions (where water soluble) or dispersions and sterile powders for the extemporaneous preparation of sterile injectable solutions or dispersions. For intravenous administration, suitable carriers include physiological saline, bacteriostatic water, Cremophor EL (BASF; Parsippany, NJ) or phosphate buffered saline (PBS). In all cases, the composition must be sterile and should be fluid to the extent that easy syringability exists. It must be stable under the conditions of manufacture and storage and must be preserved against the contaminating action of microorganisms such as bacteria and fungi. The carrier can be a solvent or dispersion medium containing, for example, water, ethanol, polyol (for example, glycerol, propylene glycol, and liquid polyethylene glycol, and the like), and suitable mixtures thereof. The proper fluidity can be maintained, for example, by the use of a coating such as lecithin, by the maintenance of the required particle size in the case of dispersion and by the use of surfactants. Prevention of the action of microorganisms can be achieved by various antibacterial and antifungal agents, for example, parabens, chlorobutanol, phenol, ascorbic acid, thimerosal, and the like. In many cases, it will be preferable to include isotonic agents, for example, sugars, polyalcohols such as mannitol, sorbitol, or sodium chloride in the composition. Prolonged absorption of the injectable compositions can be brought about by including in the composition an agent which delays absorption, for example, aluminum monostearate and gelatin.

Sterile injectable solutions can be prepared by incorporating the active compound (*e.g.*, a polypeptide or antibody) in the required amount in an appropriate solvent with one or a combination of ingredients enumerated above, as required, followed by filtered sterilization. Generally, dispersions are prepared by incorporating the active compound into a sterile vehicle which contains a basic dispersion medium, and then incorporating the required other ingredients from those enumerated above. In the case of sterile powders for the preparation of sterile injectable solutions, the preferred methods of preparation are vacuum drying and freeze-drying which yields a powder of the active ingredient plus any additional desired ingredient from a previously sterile-filtered solution thereof.

Oral compositions generally include an inert diluent or an edible carrier. They can be enclosed in gelatin capsules or compressed into tablets. For the purpose of oral therapeutic administration, the active compound can be incorporated with excipients

and used in the form of tablets, troches, or capsules. Oral compositions can also be prepared using a fluid carrier for use as a mouthwash, wherein the compound in the fluid carrier is applied orally and swished and expectorated or swallowed.

Pharmaceutically compatible binding agents, and/or adjuvant materials can be included as part of the composition. The tablets, pills, capsules, troches, and the like can contain any of the following ingredients, or compounds of a similar nature: a binder such as microcrystalline cellulose, gum tragacanth or gelatin; an excipient such as starch or lactose, a disintegrating agent such as alginic acid, Primogel, or corn starch; a lubricant such as magnesium stearate or Sterotes; a glidant such as colloidal silicon dioxide; a sweetening agent such as sucrose or saccharin; or a flavoring agent such as peppermint, methyl salicylate, or orange flavoring.

For administration by inhalation, the compounds are delivered in the form of an aerosol spray from a pressurized container or dispenser which contains a suitable propellant, *e.g.*, a gas such as carbon dioxide, or a nebulizer.

Systemic administration can also be by transmucosal or transdermal means. For transmucosal or transdermal administration, penetrants appropriate to the barrier to be permeated are used in the formulation. Such penetrants are generally known in the art, and include, for example, for transmucosal administration, detergents, bile salts, and fusidic acid derivatives. Transmucosal administration can be accomplished through the use of nasal sprays or suppositories. For transdermal administration, the active compounds are formulated into ointments, salves, gels, or creams as generally known in the art.

The compounds can also be prepared in the form of suppositories (*e.g.*, with conventional suppository bases such as cocoa butter and other glycerides) or retention enemas for rectal delivery.

In one embodiment, the active compounds are prepared with carriers that will protect the compound against rapid elimination from the body, such as a controlled release formulation, including implants and microencapsulated delivery systems. Biodegradable, biocompatible polymers can be used, such as ethylene vinyl acetate, polyanhydrides, polyglycolic acid, collagen, polyorthoesters, and polylactic acid. Methods for preparation of such formulations will be apparent to those skilled in the art. The materials can also be obtained commercially from Alza Corporation and Nova Pharmaceuticals, Inc. Liposomal suspensions (including liposomes having monoclonal

antibodies incorporated therein or thereon) can also be used as pharmaceutically acceptable carriers. These can be prepared according to methods known to those skilled in the art, for example, as described in U.S. Patent No. 4,522,811.

It is especially advantageous to formulate oral or parenteral compositions in dosage unit form for ease of administration and uniformity of dosage. Dosage unit form as used herein refers to physically discrete units suited as unitary dosages for the subject to be treated; each unit containing a predetermined quantity of active compound calculated to produce the desired therapeutic effect in association with the required pharmaceutical carrier. The specification for the dosage unit forms of the invention are dictated by and directly dependent on the unique characteristics of the active compound and the particular therapeutic effect to be achieved, and the limitations inherent in the art of compounding such an active compound for the treatment of individuals.

For antibodies, the preferred dosage is 0.1 mg/kg to 100 mg/kg of body weight (generally 10 mg/kg to 20 mg/kg). If the antibody is to act in the brain, a dosage of 50 mg/kg to 100 mg/kg is usually appropriate. Generally, partially human antibodies and fully human antibodies have a longer half-life within the human body than other antibodies. Accordingly, lower dosages and less frequent administration is often possible. Modifications such as lipidation can be used to stabilize antibodies and to enhance uptake and tissue penetration (*e.g.*, into the ovarian epithelium). A method for lipidation of antibodies is described by Cruikshank *et al.* (1997) *J. Acquired Immune Deficiency Syndromes and Human Retrovirology* 14:193.

The nucleic acid molecules corresponding to a marker of the invention can be inserted into vectors and used as gene therapy vectors. Gene therapy vectors can be delivered to a subject by, for example, intravenous injection, local administration (U.S. Patent 5,328,470), or by stereotactic injection (see, *e.g.*, Chen *et al.*, 1994, *Proc. Natl. Acad. Sci. USA* 91:3054-3057). The pharmaceutical preparation of the gene therapy vector can include the gene therapy vector in an acceptable diluent, or can comprise a slow release matrix in which the gene delivery vehicle is imbedded. Alternatively, where the complete gene delivery vector can be produced intact from recombinant cells, *e.g.* retroviral vectors, the pharmaceutical preparation can include one or more cells which produce the gene delivery system.

The pharmaceutical compositions can be included in a container, pack, or dispenser together with instructions for administration.

VII. Monitoring the Effectiveness of an Anti-Cancer Agent

As discussed above, the identified sensitivity and resistance genes can also be used as markers to assess whether a tumor has become refractory to an ongoing treatment (e.g., a chemotherapeutic treatment). When a tumor is no longer responding to a treatment the expression profile of the tumor cells will change: the level of expression of one or more of the sensitivity genes will be reduced and the level of expression of one or more of the resistance genes will increase.

In such a use, the invention provides methods for determining whether an anti-cancer treatment should be continued in a cancer patient, comprising the steps of:

a) obtaining two or more samples of cancer cells from a patient undergoing anti-cancer therapy;

b) determining the level of expression of one or more genes selected from the group consisting of the sensitivity genes (SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841) and the resistance genes (SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046) in the sample exposed to the agent and in a sample of cancer cells that is not exposed to the agent; and

c) discontinuing or altering treatment when the expression of one or more sensitivity genes decreases or when the expression of one or more resistance genes increases.

As used here, a patient refers to any subject undergoing treatment for cancer. The preferred subject will be a human patient undergoing chemotherapy treatment.

This embodiment of the present invention relies on comparing two or more samples obtained from a patient undergoing anti-cancer treatment. In general, it is preferable to obtain a first sample from the patient prior to beginning therapy and one or more samples during treatment. In such a use, a baseline of expression prior to therapy is determined and then changes in the baseline state of expression is monitored during the course of therapy. Alternatively, two or more successive samples obtained during treatment can be used without the need of a pre-treatment baseline sample. In such a use, the first sample obtained from the subject is used as a baseline for determining whether the expression of a particular gene is increasing or decreasing.

In general, when monitoring the effectiveness of a therapeutic treatment, two or more samples from the patient are examined. Preferably, three or more successively obtained samples are used, including at least one pretreatment sample.

VIII. Detection Assays

An exemplary method for detecting the presence or absence of a polypeptide or nucleic acid corresponding to a marker of the invention in a biological sample involves obtaining a biological sample (*e.g.* an ovary-associated body fluid) from a test subject and contacting the biological sample with a compound or an agent capable of detecting the polypeptide or nucleic acid (*e.g.*, mRNA, genomic DNA, or cDNA). The detection methods of the invention can thus be used to detect mRNA, protein, cDNA, or genomic DNA, for example, in a biological sample *in vitro* as well as *in vivo*. For example, *in vitro* techniques for detection of mRNA include Northern hybridizations and *in situ* hybridizations. *In vitro* techniques for detection of a polypeptide corresponding to a marker of the invention include enzyme linked immunosorbent assays (ELISAs), Western blots, immunoprecipitations and immunofluorescence. *In vitro* techniques for detection of genomic DNA include Southern hybridizations. Furthermore, *in vivo* techniques for detection of a polypeptide corresponding to a marker of the invention include introducing into a subject a labeled antibody directed against the polypeptide. For example, the antibody can be labeled with a radioactive marker whose presence and location in a subject can be detected by standard imaging techniques.

A general principle of such diagnostic and prognostic assays involves preparing a sample or reaction mixture that may contain a marker, and a probe, under appropriate conditions and for a time sufficient to allow the marker and probe to interact and bind, thus forming a complex that can be removed and/or detected in the reaction mixture. These assays can be conducted in a variety of ways.

For example, one method to conduct such an assay would involve anchoring the marker or probe onto a solid phase support, also referred to as a substrate, and detecting target marker/probe complexes anchored on the solid phase at the end of the reaction. In one embodiment of such a method, a sample from a subject, which is to be assayed for presence and/or concentration of marker, can be anchored onto a carrier or solid phase support. In another embodiment, the reverse situation is possible, in

which the probe can be anchored to a solid phase and a sample from a subject can be allowed to react as an unanchored component of the assay.

There are many established methods for anchoring assay components to a solid phase. These include, without limitation, marker or probe molecules which are immobilized through conjugation of biotin and streptavidin. Such biotinylated assay components can be prepared from biotin-NHS (N-hydroxy-succinimide) using techniques known in the art (*e.g.*, biotinylation kit, Pierce Chemicals, Rockford, IL), and immobilized in the wells of streptavidin-coated 96 well plates (Pierce Chemical). In certain embodiments, the surfaces with immobilized assay components can be prepared in advance and stored.

Other suitable carriers or solid phase supports for such assays include any material capable of binding the class of molecule to which the marker or probe belongs. Well-known supports or carriers include, but are not limited to, glass, polystyrene, nylon, polypropylene, nylon, polyethylene, dextran, amylases, natural and modified celluloses, polyacrylamides, gabbros, and magnetite.

In order to conduct assays with the above mentioned approaches, the non-immobilized component is added to the solid phase upon which the second component is anchored. After the reaction is complete, uncomplexed components may be removed (*e.g.*, by washing) under conditions such that any complexes formed will remain immobilized upon the solid phase. The detection of marker/probe complexes anchored to the solid phase can be accomplished in a number of methods outlined herein.

In a preferred embodiment, the probe, when it is the unanchored assay component, can be labeled for the purpose of detection and readout of the assay, either directly or indirectly, with detectable labels discussed herein and which are well-known to one skilled in the art.

It is also possible to directly detect marker/probe complex formation without further manipulation or labeling of either component (marker or probe), for example by utilizing the technique of fluorescence energy transfer (see, for example, Lakowicz *et al.*, U.S. Patent No. 5,631,169; Stavrianopoulos, *et al.*, U.S. Patent No. 4,868,103). A fluorophore label on the first, 'donor' molecule is selected such that, upon excitation with incident light of appropriate wavelength, its emitted fluorescent energy will be absorbed by a fluorescent label on a second 'acceptor' molecule, which in turn is

able to fluoresce due to the absorbed energy. Alternately, the 'donor' protein molecule may simply utilize the natural fluorescent energy of tryptophan residues. Labels are chosen that emit different wavelengths of light, such that the 'acceptor' molecule label may be differentiated from that of the 'donor'. Since the efficiency of energy transfer between the labels is related to the distance separating the molecules, spatial relationships between the molecules can be assessed. In a situation in which binding occurs between the molecules, the fluorescent emission of the 'acceptor' molecule label in the assay should be maximal. An FET binding event can be conveniently measured through standard fluorometric detection means well known in the art (*e.g.*, using a fluorimeter).

In another embodiment, determination of the ability of a probe to recognize a marker can be accomplished without labeling either assay component (probe or marker) by utilizing a technology such as real-time Biomolecular Interaction Analysis (BIA) (see, *e.g.*, Sjolander, S. and Urbaniczky, C., 1991, *Anal. Chem.* 63:2338-2345 and Szabo *et al.*, 1995, *Curr. Opin. Struct. Biol.* 5:699-705). As used herein, "BIA" or "surface plasmon resonance" is a technology for studying biospecific interactions in real time, without labeling any of the interactants (*e.g.*, BIAcore). Changes in the mass at the binding surface (indicative of a binding event) result in alterations of the refractive index of light near the surface (the optical phenomenon of surface plasmon resonance (SPR)), resulting in a detectable signal which can be used as an indication of real-time reactions between biological molecules.

Alternatively, in another embodiment, analogous diagnostic and prognostic assays can be conducted with marker and probe as solutes in a liquid phase. In such an assay, the complexed marker and probe are separated from uncomplexed components by any of a number of standard techniques, including but not limited to: differential centrifugation, chromatography, electrophoresis and immunoprecipitation. In differential centrifugation, marker/probe complexes may be separated from uncomplexed assay components through a series of centrifugal steps, due to the different sedimentation equilibria of complexes based on their different sizes and densities (see, for example, Rivas, G., and Minton, A.P., 1993, *Trends Biochem Sci.* 18(8):284-7). Standard chromatographic techniques may also be utilized to separate complexed molecules from uncomplexed ones. For example, gel filtration chromatography separates molecules based on size, and through the utilization of an appropriate gel

filtration resin in a column format, for example, the relatively larger complex may be separated from the relatively smaller uncomplexed components. Similarly, the relatively different charge properties of the marker/probe complex as compared to the uncomplexed components may be exploited to differentiate the complex from uncomplexed components, for example through the utilization of ion-exchange chromatography resins. Such resins and chromatographic techniques are well known to one skilled in the art (see, *e.g.*, Heegaard, N.H., 1998, *J. Mol. Recognit.* Winter 11(1-6):141-8; Hage, D.S., and Tweed, S.A. *J Chromatogr B Biomed Sci Appl* 1997 Oct 10;699(1-2):499-525). Gel electrophoresis may also be employed to separate complexed assay components from unbound components (see, *e.g.*, Ausubel *et al.*, ed., *Current Protocols in Molecular Biology*, John Wiley & Sons, New York, 1987-1999). In this technique, protein or nucleic acid complexes are separated based on size or charge, for example. In order to maintain the binding interaction during the electrophoretic process, non-denaturing gel matrix materials and conditions in the absence of reducing agent are typically preferred. Appropriate conditions to the particular assay and components thereof will be well known to one skilled in the art.

In a particular embodiment, the level of mRNA corresponding to the marker can be determined both by *in situ* and by *in vitro* formats in a biological sample using methods known in the art. The term "biological sample" is intended to include tissues, cells, biological fluids and isolates thereof, isolated from a subject, as well as tissues, cells and fluids present within a subject. Many expression detection methods use isolated RNA. For *in vitro* methods, any RNA isolation technique that does not select against the isolation of mRNA can be utilized for the purification of RNA from ovarian cells (see, *e.g.*, Ausubel *et al.*, ed., *Current Protocols in Molecular Biology*, John Wiley & Sons, New York 1987-1999). Additionally, large numbers of tissue samples can readily be processed using techniques well known to those of skill in the art, such as, for example, the single-step RNA isolation process of Chomczynski (1989, U.S. Patent No. 4,843,155).

The isolated mRNA can be used in hybridization or amplification assays that include, but are not limited to, Southern or Northern analyses, polymerase chain reaction analyses and probe arrays. One preferred diagnostic method for the detection of mRNA levels involves contacting the isolated mRNA with a nucleic acid molecule (probe) that can hybridize to the mRNA encoded by the gene being detected. The

nucleic acid probe can be, for example, a full-length cDNA, or a portion thereof, such as an oligonucleotide of at least 7, 15, 30, 50, 100, 250 or 500 nucleotides in length and sufficient to specifically hybridize under stringent conditions to a mRNA or genomic DNA encoding a marker of the present invention. Other suitable probes for use in the diagnostic assays of the invention are described herein. Hybridization of an mRNA with the probe indicates that the marker in question is being expressed.

In one format, the mRNA is immobilized on a solid surface and contacted with a probe, for example by running the isolated mRNA on an agarose gel and transferring the mRNA from the gel to a membrane, such as nitrocellulose. In an alternative format, the probe(s) are immobilized on a solid surface and the mRNA is contacted with the probe(s), for example, in an Affymetrix gene chip array. A skilled artisan can readily adapt known mRNA detection methods for use in detecting the level of mRNA encoded by the markers of the present invention.

An alternative method for determining the level of mRNA corresponding to a marker of the present invention in a sample involves the process of nucleic acid amplification, *e.g.*, by rtPCR (the experimental embodiment set forth in Mullis, 1987, U.S. Patent No. 4,683,202), ligase chain reaction (Barany, 1991, *Proc. Natl. Acad. Sci. USA,* 88:189-193), self sustained sequence replication (Guatelli *et al.*, 1990, *Proc. Natl. Acad. Sci. USA* 87:1874-1878), transcriptional amplification system (Kwoh *et al.*, 1989, *Proc. Natl. Acad. Sci. USA* 86:1173-1177), Q-Beta Replicase (Lizardi *et al.*, 1988, *Bio/Technology* 6:1197), rolling circle replication (Lizardi *et al.*, U.S. Patent No. 5,854,033) or any other nucleic acid amplification method, followed by the detection of the amplified molecules using techniques well known to those of skill in the art. These detection schemes are especially useful for the detection of nucleic acid molecules if such molecules are present in very low numbers. As used herein, amplification primers are defined as being a pair of nucleic acid molecules that can anneal to 5' or 3' regions of a gene (plus and minus strands, respectively, or vice-versa) and contain a short region in between. In general, amplification primers are from about 10 to 30 nucleotides in length and flank a region from about 50 to 200 nucleotides in length. Under appropriate conditions and with appropriate reagents, such primers permit the amplification of a nucleic acid molecule comprising the nucleotide sequence flanked by the primers.

For *in situ* methods, mRNA does not need to be isolated from the ovarian cells prior to detection. In such methods, a cell or tissue sample is prepared/processed

using known histological methods. The sample is then immobilized on a support, typically a glass slide, and then contacted with a probe that can hybridize to mRNA that encodes the marker.

As an alternative to making determinations based on the absolute expression level of the marker, determinations may be based on the normalized expression level of the marker. Expression levels are normalized by correcting the absolute expression level of a marker by comparing its expression to the expression of a gene that is not a marker, *e.g.*, a housekeeping gene that is constitutively expressed. Suitable genes for normalization include housekeeping genes such as the actin gene, or epithelial cell-specific genes. This normalization allows the comparison of the expression level in one sample, *e.g.*, a patient sample, to another sample, *e.g.*, a non-ovarian cancer sample, or between samples from different sources.

Alternatively, the expression level can be provided as a relative expression level. To determine a relative expression level of a marker, the level of expression of the marker is determined for 10 or more samples of normal versus cancer cell isolates, preferably 50 or more samples, prior to the determination of the expression level for the sample in question. The mean expression level of each of the genes assayed in the larger number of samples is determined and this is used as a baseline expression level for the marker. The expression level of the marker determined for the test sample (absolute level of expression) is then divided by the mean expression value obtained for that marker. This provides a relative expression level.

Preferably, the samples used in the baseline determination will be from ovarian cancer or from non-ovarian cancer cells of ovarian tissue. The choice of the cell source is dependent on the use of the relative expression level. Using expression found in normal tissues as a mean expression score aids in validating whether the marker assayed is ovarian specific (versus normal cells). In addition, as more data is accumulated, the mean expression value can be revised, providing improved relative expression values based on accumulated data. Expression data from ovarian cells provides a means for grading the severity of the ovarian cancer state.

In another embodiment of the present invention, a polypeptide corresponding to a marker is detected. A preferred agent for detecting a polypeptide of the invention is an antibody capable of binding to a polypeptide corresponding to a marker of the invention, preferably an antibody with a detectable label. Antibodies can

be polyclonal, or more preferably, monoclonal. An intact antibody, or a fragment thereof (*e.g.*, Fab or $F(ab')_2$) can be used. The term "labeled", with regard to the probe or antibody, is intended to encompass direct labeling of the probe or antibody by coupling (*i.e.*, physically linking) a detectable substance to the probe or antibody, as well as indirect labeling of the probe or antibody by reactivity with another reagent that is directly labeled. Examples of indirect labeling include detection of a primary antibody using a fluorescently labeled secondary antibody and end-labeling of a DNA probe with biotin such that it can be detected with fluorescently labeled streptavidin.

Proteins from ovarian cells can be isolated using techniques that are well known to those of skill in the art. The protein isolation methods employed can, for example, be such as those described in Harlow and Lane (Harlow and Lane, 1988, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York).

A variety of formats can be employed to determine whether a sample contains a protein that binds to a given antibody. Examples of such formats include, but are not limited to, enzyme immunoassay (EIA), radioimmunoassay (RIA), Western blot analysis and enzyme linked immunoabsorbant assay (ELISA). A skilled artisan can readily adapt known protein/antibody detection methods for use in determining whether ovarian cells express a marker of the present invention.

In one format, antibodies, or antibody fragments, can be used in methods such as Western blots or immunofluorescence techniques to detect the expressed proteins. In such uses, it is generally preferable to immobilize either the antibody or proteins on a solid support. Suitable solid phase supports or carriers include any support capable of binding an antigen or an antibody. Well-known supports or carriers include glass, polystyrene, polypropylene, polyethylene, dextran, nylon, amylases, natural and modified celluloses, polyacrylamides, gabbros, and magnetite.

One skilled in the art will know many other suitable carriers for binding antibody or antigen, and will be able to adapt such support for use with the present invention. For example, protein isolated from ovarian cells can be run on a polyacrylamide gel electrophoresis and immobilized onto a solid phase support such as nitrocellulose. The support can then be washed with suitable buffers followed by treatment with the detectably labeled antibody. The solid phase support can then be

washed with the buffer a second time to remove unbound antibody. The amount of bound label on the solid support can then be detected by conventional means.

The invention also encompasses kits for detecting the presence of a polypeptide or nucleic acid corresponding to a marker of the invention in a biological sample (*e.g.* an ovary-associated body fluid such as a urine sample). Such kits can be used to determine if a subject is suffering from or is at increased risk of developing ovarian cancer. For example, the kit can comprise a labeled compound or agent capable of detecting a polypeptide or an mRNA encoding a polypeptide corresponding to a marker of the invention in a biological sample and means for determining the amount of the polypeptide or mRNA in the sample (*e.g.*, an antibody which binds the polypeptide or an oligonucleotide probe which binds to DNA or mRNA encoding the polypeptide). Kits can also include instructions for interpreting the results obtained using the kit.

For antibody-based kits, the kit can comprise, for example: (1) a first antibody (*e.g.*, attached to a solid support) which binds to a polypeptide corresponding to a marker of the invention; and, optionally, (2) a second, different antibody which binds to either the polypeptide or the first antibody and is conjugated to a detectable label.

For oligonucleotide-based kits, the kit can comprise, for example: (1) an oligonucleotide, *e.g.*, a detectably labeled oligonucleotide, which hybridizes to a nucleic acid sequence encoding a polypeptide corresponding to a marker of the invention or (2) a pair of primers useful for amplifying a nucleic acid molecule corresponding to a marker of the invention. The kit can also comprise, *e.g.*, a buffering agent, a preservative, or a protein stabilizing agent. The kit can further comprise components necessary for detecting the detectable label (*e.g.*, an enzyme or a substrate). The kit can also contain a control sample or a series of control samples which can be assayed and compared to the test sample. Each component of the kit can be enclosed within an individual container and all of the various containers can be within a single package, along with instructions for interpreting the results of the assays performed using the kit.

IX. Electronic Apparatus Readable Media and Arrays

Electronic apparatus readable media comprising a marker of the present invention is also provided. As used herein, "electronic apparatus readable media" refers to any suitable medium for storing, holding or containing data or information that can be read and accessed directly by an electronic apparatus. Such media can include, but are

not limited to: magnetic storage media, such as floppy discs, hard disc storage medium, and magnetic tape; optical storage media such as compact disc; electronic storage media such as RAM, ROM, EPROM, EEPROM and the like; general hard disks and hybrids of these categories such as magnetic/optical storage media. The medium is adapted or configured for having recorded thereon a marker of the present invention.

As used herein, the term "electronic apparatus" is intended to include any suitable computing or processing apparatus or other device configured or adapted for storing data or information. Examples of electronic apparatus suitable for use with the present invention include stand-alone computing apparatus; networks, including a local area network (LAN), a wide area network (WAN) Internet, Intranet, and Extranet; electronic appliances such as a personal digital assistants (PDAs), cellular phone, pager and the like; and local and distributed processing systems.

As used herein, "recorded" refers to a process for storing or encoding information on the electronic apparatus readable medium. Those skilled in the art can readily adopt any of the presently known methods for recording information on known media to generate manufactures comprising the markers of the present invention.

A variety of software programs and formats can be used to store the marker information of the present invention on the electronic apparatus readable medium. For example, the nucleic acid sequence corresponding to the markers can be represented in a word processing text file, formatted in commercially-available software such as WordPerfect and MicroSoft Word, or represented in the form of an ASCII file, stored in a database application, such as DB2, Sybase, Oracle, or the like, as well as in other forms. Any number of dataprocessor structuring formats (*e.g.*, text file or database) may be employed in order to obtain or create a medium having recorded thereon the markers of the present invention.

By providing the markers of the invention in readable form, one can routinely access the marker sequence information for a variety of purposes. For example, one skilled in the art can use the nucleotide or amino acid sequences of the present invention in readable form to compare a target sequence or target structural motif with the sequence information stored within the data storage means. Search means are used to identify fragments or regions of the sequences of the invention which match a particular target sequence or target motif.

The invention also includes an array comprising a marker of the present invention. The array can be used to assay expression of one or more genes in the array. In one embodiment, the array can be used to assay gene expression in a tissue to ascertain tissue specificity of genes in the array. In this manner, up to about 36,000 genes can be simultaneously assayed for expression. This allows a profile to be developed showing a battery of genes specifically expressed in one or more tissues.

In addition to such qualitative determination, the invention allows the quantitation of gene expression. Thus, not only tissue specificity, but also the level of expression of a battery of genes in the tissue is ascertainable. Thus, genes can be grouped on the basis of their tissue expression *per se* and level of expression in that tissue. This is useful, for example, in ascertaining the relationship of gene expression between or among tissues. Thus, one tissue can be perturbed and the effect on gene expression in a second tissue can be determined. In this context, the effect of one cell type on another cell type in response to a biological stimulus can be determined. Such a determination is useful, for example, to know the effect of cell-cell interaction at the level of gene expression. If an agent is administered therapeutically to treat one cell type but has an undesirable effect on another cell type, the invention provides an assay to determine the molecular basis of the undesirable effect and thus provides the opportunity to co-administer a counteracting agent or otherwise treat the undesired effect. Similarly, even within a single cell type, undesirable biological effects can be determined at the molecular level. Thus, the effects of an agent on expression of other than the target gene can be ascertained and counteracted.

In another embodiment, the array can be used to monitor the time course of expression of one or more genes in the array.

The array is also useful for ascertaining the effect of the expression of a gene on the expression of other genes in the same cell or in different cells. This provides, for example, for a selection of alternate molecular targets for therapeutic intervention if the ultimate or downstream target cannot be regulated.

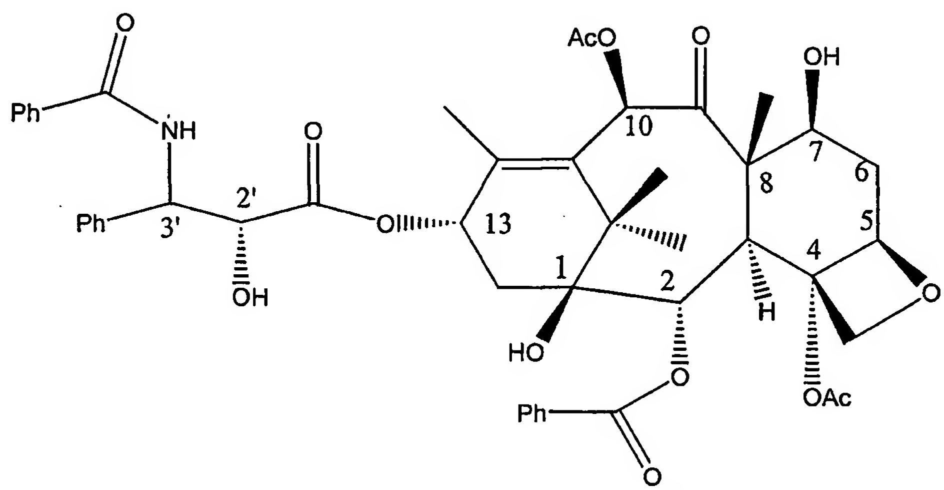
The array is also useful for ascertaining differential expression patterns of one or more genes in normal and abnormal cells. This provides a battery of genes that could serve as a molecular target for diagnosis or therapeutic intervention.

SPECIFIC EXAMPLES

At least some of the examples set forth below relate to sensitivity or resistance to TAXOL. TAXOL is a chemical compound within a family of taxane compounds which are art-recognized as being a family of related compounds. The language "taxane compound" is intended to include TAXOL, compounds which are structurally similar to TAXOL and/or analogs of TAXOL. The language "taxane compound" can also include "mimics". "Mimics" is intended to include compounds which may not be structurally similar to TAXOL but mimic the therapeutic activity of TAXOL or structurally similar taxane compounds *in vivo*. The taxane compounds of this invention are those compounds which are useful for inhibiting tumor growth in

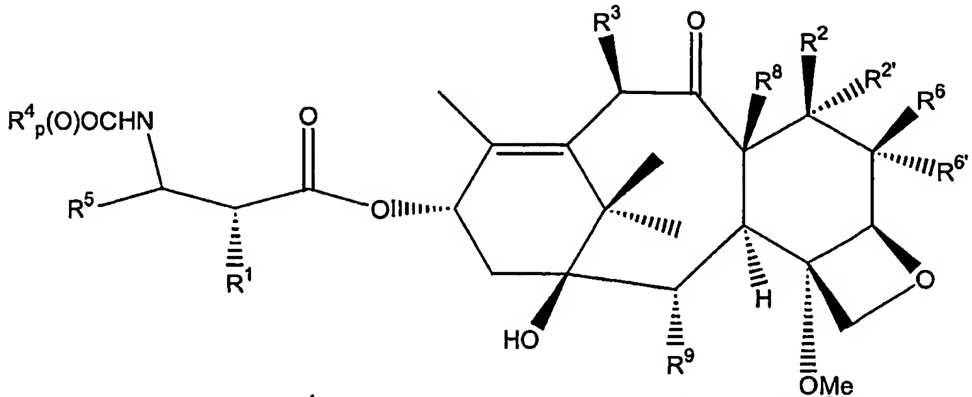
subjects (patients). The term taxane compound also is intended to include pharmaceutically acceptable salts of the compounds. Taxane compounds have previously been described in U.S. Patent Nos. 5,641,803, 5,665,671, 5,380,751, 5,728,687, 5,415,869, 5,407,683, 5,399,363, 5,424,073, 5,157,049, 5,773,464, 5,821,263, 5,840,929, 4,814,470, 5,438,072, 5,403,858, 4,960,790, 5,433,364, 4,942,184, 5,362,831, 5,705,503, and 5,278,324, all of which are expressly incorporated by reference.

The structure of TAXOL, shown below, offers many groups capable of being synthetically functionalized to alter the physical or pharmaceutical properties of TAXOL.

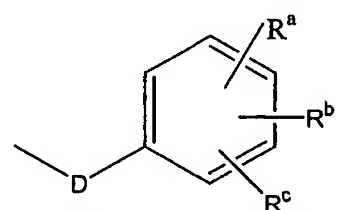


For example, a well known semi-synthetic analog of TAXOL, named Taxotere (docetaxel), has also been found to have good anti-tumor activity in animal models. Taxotere has t-butoxy amide at the 3' position and a hydroxyl group at the C10 position (U.S. 5,840,929).

Other examples of TAXOL derivatives include those mentioned in U.S. 5,840,929 which are directed to derivatives of TAXOL having the formula:



wherein R^1 is hydroxy, -OC(O)R^x, or –OC(O)OR^x; R^2 is hydrogen, hydroxy, -OC(O)R^x, or –OC(O)OR^x; $R^{2'}$ is hydrogen, hydroxy, or fluoro; $R^{6'}$ is hydrogen or hydroxy or $R^{2'}$ and $R^{6'}$ can together form an oxirane ring; R^3 is hydrogen, C_{1-6} alkyloxy, hydroxy, -OC(O)R^x, –OC(O)OR^x, -OCONR^7R^{11}; R^8 is methyl or R^8 and R^2 together can form a cyclopropane ring; R^6 is hydrogen or R^6 and R^2 can together form a bond; R^9 is hydroxy or –OC(O)R^x; R^7 and R^{11} are independently C_{1-6} alkyl, hydrogen, aryl, or substituted aryl; R^4 and R^5 are independently C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, or –Z-R^{10}; Z is a direct bond, C_{1-6} alkyl, or C_{2-6} alkenyl; R^{10} is aryl, substituted aryl, C_{3-6} cycloalkyl, C_{2-6} alkenyl, C_{1-6} alkyl, all can be optionally substituted with one to six same or different halogen atoms or hydroxy; R^x is a radical of the formula:



wherein D is a bond or C_{1-6} alkyl; and R^a, R^b and R^c are independently hydrogen, amino, C_{1-6} alkyl or C_{1-6} alkoxy.

Further examples of R^x include methyl, hydroxymethyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, chloromethyl, 2,2,2-trichloroethyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, ethenyl, 2-propenyl, phenyl, benzyl, bromophenyl, 4-aminophenyl, 4-methylaminophenyl, 4-methylphenyl, 4-methoxyphenyl and the like. Examples of R^4 and R^5 include 2-propenyl, isobutenyl, 3-furanyl (3-furyl), 3-thienyl, phenyl, naphthyl, 4-hydroxyphenyl, 4-methoxyphenyl, 4-fluorophenyl, 4-trifluoromethylphenyl, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, t-butyl, ethenyl, 2-propenyl, 2-propynyl, benzyl, phenethyl, phenylethenyl, 3,4-dimethoxyphenyl, 2-furanyl (2-furyl), 2-thienyl,

2-(2-furanyl)ethenyl, 2-methylpropyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclohexylmethyl, cyclohexylethyl and the like.

TAXOL derivatives can be readily made by following the well established paclitaxel chemistry. For example, C2, C6, C7, C10, and/or C8 position can be derivatized by essentially following the published procedure, into a compound in which R^3, R^8, R^2, $R^{2'}$, R^9, $R^{6'}$ and R^6 have the meanings defined earlier. Subsequently, C4-acetyloxy group can be converted to the methoxy group by a sequence of steps. For example, for converting C2-benzoyloxy to other groups see, S. H. Chen et al, *Bioorganic and Medicinal Chemistry Letters*, Vol. 4, No. 3, pp 479-482 (1994); for modifying C10-acetyloxy see, J. Kant et al, *Tetrahedron Letters,* Vol. 35, No. 31, pp 5543-5546 (1994) and U.S. Pat. No. 5,294,637 issued Mar. 15, 1994; for making C10 and/or C7 unsubstituted (deoxy) derivatives see, European Patent Application 590 267A2 published Apr. 6, 1994 and PCT application WO 93/06093 published Apr. 1, 1993; for making 7β,8β-methano, 6,7-α,α-dihydroxy and 6,7-olefinic groups see, R. A. Johnson, *Tetrahedron Letters*, Vol. 35, No 43, pp 7893-7896 (1994), U.S. Pat. No. 5,254,580, issued Oct. 19, 1993, and European Patent Application 600 517A1 published Jun. 8, 1994; for making C7/C6 oxirane see, U.S. Pat. No. 5,395,850 issued Mar. 7, 1995; for making C7-epi-fluoro see, G. Roth et al, *Tetrahedron Letters,* Vol 36, pp 1609-1612 (1993); for forming C7 esters and carbonates see, U.S. Pat. No. 5,272,171 issued Dec. 21, 1993 and S. H. Chen et al., *Tetrahedron*, 49, No. 14, pp 2805-2828 (1993).

In U.S. 5,773,464, TAXOL derivatives containing epoxides at the C_{10} position are disclosed as antitumor agents. Other C-10 taxane analogs have also appeared in the literature. Taxanes with alkyl substituents at C-10 have been reported in a published PCT patent application WO 9533740. The synthesis of C-10 epi hydroxy or acyloxy compounds is disclosed in PCT application WO 96/03394. Additional C-10 analogs have been reported in *Tetrahedron Letters* 1995, 36(12), 1985-1988; *J. Org. Chem.* 1994, 59, 4015-4018 and references therein; K. V. Rao et. al. *Journal of Medicinal Chemistry* 1995, 38 (17), 3411-3414; J. Kant et. al. *Tetrahedron Lett.* 1994, 35(31), 5543-5546; WO 9533736; WO 93/02067; U.S. Pat. No. 5,248,796; WO 9415929; and WO 94/15599.

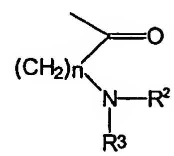
Other relevant TAXOL derivatives include the sulfenamide taxane derivatives described in U.S. 5,821,263. These compounds are charachterized by the

C3' nitrogen bearing one or two sulfur substiuents. These compounds have been useful in the treatment of cancers such as ovarian, breast, lung, gastic, colon, head, neck, melanoma, and leukemia.

U.S. 4,814,470 discusses TAXOL derivatives with hydroxyl or acetyl group at the C10 position and hydroxy or t-butylcarbonyl at C2' and C3' positions.

U.S. 5,438,072 discusses TAXOL derivatives with hydroxyl or acetate groups at the C10 position and a C2' substitutuent of either t-butylcarbonyl or benzoylamino.

U.S. 4,960,790 discusses derivatives of TAXOL which have, at the C2' and/or C7 position a hydrogen, or the residue of an amino acid selected from the group consisting of alanine, leucine, isoleucine, saline, phenylalanine, proline, lysine, and arginine, or a group of the formula:



wherein n is an integer of 1 to 3 and R^2 and R^3 are each hydrogen on an alkyl radical having one to three carbon atoms or wherein R^2 and R^3 together with the nitrogen atom to which they are attached form a saturated heterocyclic ring having four to five carbon atoms, with the proviso that at least one of the substituents are not hydrogen.

Other similar water soluble TAXOL derivatives are discussed in U.S. 4,942,184, U.S. 5,433,364, and in U.S. 5,278,324.

Many TAXOL derivatives may also include protecting groups such as, for example, hydroxy protecting groups. "Hydroxy protecting groups" include, but are not limited to, ethers such as methyl, t-butyl, benzyl, p-methoxybenzyl, p-nitrobenzyl, allyl, trityl, methoxymethyl, methoxyethoxymethyl, ethoxyethyl, tetrahydropyranyl, tetrahydrothiopyranyl, dialkylsilylethers, such as dimethylsilyl ether, and trialkylsilyl ethers such as trimethylsilyl ether, triethylsilyl ether, and t-butyldimethylsilyl ether; esters such as benzoyl, acetyl, phenylacetyl, formyl, mono-, di-, and trihaloacetyl such as chloroacetyl, dichloroacetyl, trichloroacetyl, trifluoroacetyl; and carbonates such as methyl, ethyl, 2,2,2-trichloroethyl, allyl, benzyl, and p-nitrophenyl. Additional examples of hydroxy protecting groups may be found in standard reference works such as Greene

and Wuts, *Protective Groups in Organic Synthesis,* 2d Ed., 1991, John Wiley & Sons, and McOmie; and *Protective Groups in Organic Chemistry*, 1975, Plenum Press. Methods for introducing and removing protecting groups are also found in such textbooks.

A. Generation of Subtracted Libraries

Subtracted libraries are generated using a PCR based method that allows the isolation of clones expressed at higher levels in one population of mRNA (tester) compared to another population (driver). Both tester and driver mRNA populations are converted into cDNA by reverse transcription, and then PCR amplified using the SMART PCR kit from Clontech. Tester and driver cDNAs are then hybridized using the PCR-Select cDNA subtraction kit from Clontech. This technique results in both subtraction and normalization, which is an equalization of copy number of low-abundance and high-abundance sequences. After generation of the subtractive libraries, a group of 96 or more clones from each library is tested to confirm differential expression by reverse Southern hybridization.

RNA was generated and pooled from two groups of cancer cell lines shown in Tables B and C. One group of nine cell lines was determined to be sensitive to TAXOL (Table C), the other group of nine cell lines was determined to be resistant to TAXOL (Table B). Sensitivity to TAXOL was based on known GI_{50} values for these cells, which for this study was defined as the concentration of TAXOL required to inhibit growth of the cell line by 50%. More precisely, the quantity used in the calculation is the potency measure $-\log\{GI_{50}\}$. Pooled RNA from TAXOL sensitive cancer cell lines was used as tester against driver RNA pooled from TAXOL resistant cancer cell lines. The results of this subtractive library are shown in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841. Pooled RNA from TAXOL resistant cancer cell lines was used as tester against driver RNA pooled from TAXOL sensitive cancer cell lines. The results of this subtractive library are shown in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046.

Table B

Tissue of Origin	TAXOL Resistant Cell Line	Log GI 50 for TAXOL
Non-small cell lung carcinoma	EKVX	-6.6
Non-small cell lung carcinoma	HOP-92	-7.2
Colon	HCT-15	-6.7
Melanoma	MALME-3M	-6.8
Melanoma	SK-MEL-28	-7.1
Ovarian	OVCAR-4	-6.3
Renal	ACHN	-5.8
Breast	MCF-7/AdrRes	-5.5
Breast	T-47D	-6.9
		-6.5 (Mean)

Table C

Tissue of Origin	TAXOL Sensitive Cell Line	Log GI 50 for TAXOL
Non-small cell lung carcinoma	NCI-H460	-8.5
Non-small cell lung carcinoma	NCI-H522	-8.5
Colon	HT-29	-8.6
Melanoma	SK-MEL-2	-8.3
Melanoma	SK-MEL-5	-8.4
Ovarian	OVCAR-3	-8.5

Renal	SN12C	-8.5
Breast	MCF-7	-8.5
Breast	MDA-MB-435	-8.6
		-8.5 (Mean)

B. Summary of Data Provided in the Tables

SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 show novel nucleotide sequences that are present in the pooled RNA of the TAXOL sensitive cells. SEQ ID NOS:24-44, SEQ ID NOS:420-437and SEQ ID NOS:765-782 are preferred, SEQ ID NOS:17-23, SEQ ID NOS:412-419 and SEQ ID NOS:759-764 are more preferred, and SEQ ID NOS: 1-16, SEQ ID NOS:398-411 and SEQ ID NOS:746-758 are most preferred.

SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 show 271 novel nucleotide sequences that are present in the pooled RNA of the TAXOL resistant cells. SEQ ID NOS:255-362, SEQ ID NOS:616-711 and SEQ ID NOS: 942-1018 are preferred, SEQ ID NOS: 230-254, SEQ ID NOS:599-615 and SEQ ID NOS: 920-941 are more preferred, and SEQ ID NOS:128-229, SEQ ID NOS:518-598 and SEQ ID NOS: 842-919 are most preferred.

C. Sensitivity Assays and Identification of Therapeutic and Drug Screening Targets

A sample of cancerous cells with unknown sensitivity to a given drug is obtained from a patient. An expression level is measured in the sample for a gene corresponding to one of the markers identified in SEQ ID NOS:1-1046. If the gene is expressed, and the marker of the invention to which the gene corresponds is listed among the markers of SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841, then the drug will be effective against the cancer. Accordingly, if the gene is not expressed, and the marker of the invention to which the gene corresponds is listed among in the markers of SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841, then the drug will not be effective against the cancer. If the gene is expressed, and the marker of the invention to which the gene corresponds is listed among the

markers of SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046, then the drug will not be effective against the cancer. Accordingly, if the gene is not expressed, and the marker of the invention to which the gene corresponds is listed among the markers of SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046, then the drug will be effective against the cancer.

Thus, by examining the expression of one or more of the identified markers in a sample of cancer cells, it is possible to determine which therapeutic agent(s), or combination of agents, to use as the appropriate treatment agents.

By examining the expression of one or more of the identified markers in a sample of cancer cells taken from a patient during the course of therapeutic treatment, it is also possible to determine whether the therapeutic agent is continuing to work or whether the cancer has become resistant (refractory) to the treatment protocol. For example, a cancer patient receiving a treatment of TAXOL would have cancer cells removed and monitored for the expression of a marker. If the expression level of a marker remains substantially the same, the treatment with TAXOL would continue. However, a significant change in marker expression would suggest that the cancer may have become resistant to TAXOL and another chemotherapy protocol should be initiated to treat the patient.

Importantly, these determinations can be made on a patient by patient basis or on an agent by agent (or combinations of agents). Thus, one can determine whether or not a particular therapeutic treatment is likely to benefit a particular patient or group/class of patients, or whether a particular treatment should be continued.

The identified markers further provide previously unknown or unrecognized targets for the development of anti-cancer agents, such as chemotherapeutic compounds, and can be used as targets in developing single agent treatment as well as combinations of agents for the treatment of cancer.

Other Embodiments

The present invention is not to be limited in scope by the specific embodiments described that are intended as single illustrations of individual aspects of the invention and functionally equivalent methods and components are within the scope of the invention, in addition to those shown and described herein will become apparent

to those skilled in the art from the foregoing description and accompanying drawings. Such modifications are intended to fall within the scope of the appended claims.

All references cited herein, including journal articles, patents, and databases are expressly incorporated by reference.

What is claimed is:

1. An isolated nucleic acid molecule comprising a nucleotide sequence of SEQ ID NOS:1-1046.

2. A vector which contains a nucleic acid molecule of claim 1.

3. A host cell which contains a nucleic acid molecule of claim 1.

4. An isolated polypeptide which is encoded by a nucleic acid molecule comprising a nucleotide sequence of SEQ ID NOS:1-1046.

5. An antibody which selectively binds to a polypeptide of claim 4.

6. A method for determining whether TAXOL can be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) determining whether the cancer cells express one or more markers selected from the group consisting of the sensitivity markers in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841; and

c) identifying that TAXOL can be used to reduce the growth of the cancer cells when one or more of the sensitivity markers in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 is expressed by the cancer cells.

7. The method of claim 6, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

8. The method of claim 6, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

9. The method of claim 6, wherein said cancer cells are obtained from cancer cell lines or cancer cells obtained from a subject.

10. A method for determining whether TAXOL cannot be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) determining whether the cancer cells express one or more markers selected from the group consisting of the sensitivity markers identified in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841; and

c) identifying that TAXOL cannot be used to reduce the growth of the cancer cells when one or more of the sensitivity markers in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 is not expressed by the cancer cells.

11. The method of claim 10, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more sensitivity markers present in the sample.

12. The method of claim 10, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

13. The method of claim 10, wherein said cancer cells are obtained from cancer cell lines or cancer cells obtained from a subject.

14. A method for determining whether TAXOL can be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) determining whether the cancer cells express one or more markers selected from the group consisting of the resistance markers in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046; and

c) identifying that TAXOL can be used to reduce the growth of the cancer cells when one or more of the resistance markers in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 is not expressed by the cancer cells.

15. The method of claim 14, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

16. The method of claim 14, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

17. The method of claim 14, wherein said cancer cells are obtained from cancer cell lines or cancer cells obtained from a subject.

18. A method for determining whether TAXOL cannot be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) determining whether the cancer cells express one or more markers selected from the group consisting of the resistance markers identified in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046; and

c) identifying that TAXOL cannot be used to reduce the growth of the cancer cells when one or more of the markers in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 is expressed by the cancer cells.

19. The method of claim 18, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

20. The method of claim 18, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

21. The method of claim 18, wherein the cancer cells are obtained from cancer cell lines or cancer cells obtained from a subject.

22. A method for determining whether TAXOL can be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) exposing the cancer cell to one or more test agents;

c) determining the level of expression in the cancer cells of one or more markers selected from the group consisting of the sensitivity markers identified in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 in the sample exposed to TAXOL and in a sample of cancer cells that is not exposed to TAXOL; and

d) identifying that TAXOL can be used to reduce the growth of said cancer cells when the expression of one or more of said markers is increased in the presence of TAXOL.

23. The method of claim 22, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

24. The method of claim 22, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

25. The method of claim 22, wherein the cancer cells are obtained from cancer cell lines or cancer cells obtained from a subject.

26. A method for determining whether TAXOL cannot be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) exposing the cancer cell to TAXOL;

c) determining the level of expression in the cancer cells of one or more markers selected from the group consisting of the sensitivity markers identified in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 in the sample exposed to TAXOL and in a sample of cancer cells that is not exposed to TAXOL; and

d) identifying that TAXOL cannot be used to reduce the growth of the cancer cells when the expression of one or more of said markers is not increased in the presence of TAXOL.

27. The method of claim 26, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

28. The method of claim 26, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

29. The method of claim 26, wherein the cancer cells are obtained from cancer cell lines or cancer cells obtained from a subject.

30. A method for determining whether TAXOL can be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) exposing the cancer cell to TAXOL;

c) determining the level of expression in the cancer cells of one or more markers selected from the group consisting of the resistance markers identified in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 in the sample exposed to TAXOL and in a sample of cancer cells that is not exposed to TAXOL; and

d) identifying that TAXOL can be used to reduce the growth of the cancer cells when the expression of one or more of said markers is not increased in the presence of TAXOL.

31. The method of claim 30, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

32. The method of claim 30, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

33. The method of claim 30, wherein the cancer cells are obtained from cancer cell lines or cancer cells obtained from a subject.

34. A method for determining whether TAXOL cannot be used to reduce the growth of cancer cells, comprising the steps of:

a) obtaining a sample of cancer cells;

b) exposing the cancer cell to TAXOL;

c) determining the level of expression in the cancer cells of one or more markers selected from the group consisting of the resistance markers identified in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 in the sample exposed to TAXOL and in a sample of cancer cells that is not exposed to TAXOL; and

d) identifying that TAXOL can be used to reduce the growth of the cancer cells when the expression of one or more of said markers is increased in the presence of TAXOL.

35. The method of claim 34, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

36. The method of claim 34, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

37. The method of claim 34, wherein the cancer cells are obtained from cancer cell lines or cancer cells obtained from a subject.

38. A method for determining whether treatment with TAXOL should be continued in a cancer patient, comprising the steps of:

a) obtaining two or more samples comprising cancer cells from a patient during the course of TAXOL treatment;

b) determining the level of expression in the cancer cells of one or more markers selected from the group consisting of the sensitivity markers identified in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 in the two or more samples; and

c) continuing treatment when the expression level of one or more of the markers does not decrease during the course of treatment.

39. The method of claim 38, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

40. The method of claim 38, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

41. A method for determining whether treatment with TAXOL should not be continued in a cancer patient, comprising the steps of:

a) obtaining two or more samples comprising cancer cells from a patient during the course of TAXOL treatment;

b) determining the level of expression in the cancer cells of one or more markers selected from the group consisting of the sensitivity

markers identified in SEQ ID NOS:1-127, SEQ ID NOS:398-517 and SEQ ID NOS: 746-841 in the two or more samples; and

c) continuing treatment when the expression level of one or more of the markers decreases during the course of treatment.

42. The method of claim 41, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

43. The method of claim 41, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

44. A method for determining whether treatment with TAXOL should not be continued in a cancer patient, comprising the steps of:

a) obtaining two or more samples comprising cancer cells from a patient during the course of TAXOL treatment;

b) determining the level of expression in the cancer cells of one or more markers selected from the group consisting of the resistance markers identified in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 in the two or more samples; and

c) discontinuing treatment when the expression level of one or more of the markers does not decrease during the course of treatment.

45. The method of claim 44, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

46. The method of claim 44, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

47. A method for determining whether treatment with TAXOL should be continued in a cancer patient, comprising the steps of:

a) obtaining two or more samples comprising cancer cells from a patient during the course of TAXOL treatment;

b) determining the level of expression in the cancer cells of one or more markers selected from the group consisting of the resistance markers identified in SEQ ID NOS:128-397, SEQ ID NOS:518-745 and SEQ ID NOS: 842-1046 in the two or more samples; and

c) continuing treatment when the expression level of one or more of the markers does not increase during the course of treatment.

48. The method of claim 47, wherein the level of expression is determined by detecting the amount of mRNA that is encoded by the one or more markers present in the sample.

49. The method of claim 47, wherein the level of expression is determined by detecting the amount of protein that is encoded by said one or more markers present in the sample.

SEQUENCE LISTING

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FOR THE IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY
OF HUMAN CANCERS

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acttccaaaa aggncgnnta aataacgagt ttatcccacc aggaaattca gggngtnaat 360
aaccgccagg gaaaaanaaa catgtggaag ccaaaaaggc caagncanan aaggcncagt 420
gaaaccctta aaaaaaaggg c 441

<210> 10
<211> 683
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(683)
<223> n = A,T,C or G

<400> 10
acactgcctt cttggacgct ttaaagnnct tcgctcttgg cttcagactt taggcaggtg 60
tncacggtag acttcctttc tttcgccacc attatggagg gggcacnana anatacccna 120
gnaacagcgg acgtttcaat aaaataccct cctagccccg tctgnctcaa gttaatacaa 180
tttcaagctt gtgacatcgn gggggcccnt ggccgagnct tgttcnttca ggggaccccc 240
cagnaagtcc cgggggagng ncctnaggtt tttttggatg nggggaaagg ggcatccccc 300
ccagnttccc caacaaccaa aacncctggc cccccggggg gccgngggnc cggccttcnt 360
taggaaaacc ttaaggttgn gggattcccc cccccggggg nccttggcca agngggaaaa 420
ttttccgtaa ttantttcaa aaggnctttt taattccngg aattaacccc ggntgccgga 480
accccnttcn taagtggggg gggggggggc ccccccgggt ttaacccncc aagnccttttt 540
ttntggtttt cccccctttt tttaagnttg gaaggggggt ttttaaaatt ttgggcngac 600
cggccttttt ggggccggtt aaaaattcca attnggggggt cccaattaag gnccttgggn 660
gtttcccccct tggggggggtt ggg 683

<210> 11
<211> 382
<212> DNA
<213> Homo sapiens

<400> 11
ggcggccgag gtacattgaa aagccatgtt cccttgtaga aagaaaaatg ctgttgcctt 60
ttgggttgat tctattatct gatgttttat taatctctgt gaaataattg tgtaaattaa 120
tatagagact agttgagaaa tggtggataa catgaagaag atacccattt ttgcatagat 180
tagatgtgat caacctcaca ctatcatatg aaagttggct gcattggaga gacaggaatt 240
aatattaaaa atgttttcag ttcagattga tatcttacat ttccaaatat tattttcttt 300
tgaatatgtg gtataagtaa tctgctttaa agtcctattt taagttgggt gcagtggctc 360
gcacctgtaa tcccaccatt tt 382

<210> 12
<211> 446
<212> DNA
<213> Homo sapiens

<400> 12
ctatagggcg aattggagct ccccgcggtg gcggccgagc ctgatggaag agagggctgt 60
gtgtcacagg gattcccaag ccactaaagc acattcccag gaccatatca tcgggagcat 120
cattgctgta gcatcgacat ttactggcga gaagtctcct gacggcttct ctgctgaaga 180
ccattcctcc tcctcccgtg atgtagctgt agccaccagt gcccaggccg tagccgtagc 240
gctctcccag aaacacaggc ttgccggagt cataacagct aagcaagtgc tggagcctgg 300
agatacttat taatgtatca tcatccacaa tgactaacca tgctgttttg tcctggctac 360
gattcagaaa tctttccaaa atggcaaatg tctttccaca atgacctcta tctgtattag 420
gaattcccaa atccacagta ggaatg 446

<210> 13
<211> 428
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(428)
<223> n = A,T,C or G

<400> 13
tagggcgaat tgancncggt ggcggccgcc cgggcaggta cctcaaggct ggcctcaacc 60
caccggccaa ccagcgcgcc cgctgccgag cgcagaggag ggaaggaata gccccgttgt 120
ggtgggattt aagcgtcctg ttccacgctc cagaaccctt gagatgggaa ggaccttgga 180
gagcacctga taaaagcctt tcccgttccc tattgcccgc gatggggagc ttgtcccctc 240
gaggcaaaga gcatacaggc gtgttgggat gactgggttt tgctggtctt caatcttgta 300
accgttggaa tttggtttca ctaccctgct nttnttcatt ctgccctnat tcttcagang 360
aagaaagagg ntggataana tgntgggaac cctaagntng aagggnagaa cccgggggaa 420

aaaaggga

<210> 14
<211> 497
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(497)
<223> n = A,T,C or G

<400> 14
ccgggcaggt acctagaata gtggttctcg aagaatgcgg cctgcagatc ctgggagtcc 60
caagaccctt tcagggagga tctgtgaggt caactgttgg cactgtggca tgaatcaagg 120
tggtggcagc aaacttctag tagttttgat atgtccttga tagaacaaat agcaatggtt 180
aactattaaa tgttgaccta gccagcgcag tggctcatgc ctgtaatccc agcactttgg 240
gaggctgagg cgggcggatc acctgaggtc gggagttcga ggccagcctt gaccaacatg 300
gagaaacccc gtnttttttt aaaattccaa atttagctgg gcatgggngg tgcatgcctg 360
taattccagc tactcgggag gctgaggcaa gaaaatcgct tgaatcccgt aggtggaggt 420
tgcagtgagc ccgagatcat accattgcac ttccaaccca agcaacaaga gtgaaaccct 480
gtcttaaaaa gaaaaaa 497

<210> 15
<211> 497
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(497)
<223> n = A,T,C or G

<400> 15
ccgggcaggt acctagaata gtggttctcg aagaatgcgg cctgcagatc ctgggagtcc 60
caagaccctt tcagggagga tctgtgaggt caactgttgg cactgtggca tgaatcaagg 120
tggtggcagc aaacttctag tagttttgat atgtccttga tagaacaaat agcaatggtt 180
aactattaaa tgttgaccta gccagcgcag tggctcatgc ctgtaatccc agcactttgg 240
gaggctgagg cgggcggatc acctgaggtc gggagttcga ggccagcctg accaacatgg 300
agaaaccccg tctcttctaa aaatacaaaa ttagctgggc atggtggtgc atgccttgta 360
attccagcta ctcgggaggc tgaggcaaga gaatcgcttg aatccggtag gtggaggttg 420
cagtgagccg agatcatacc attgccttca gcccangcaa caagaggtga aaccctgttt 480
taaaaagaaa aaaaaaa 497

<210> 16
<211> 440
<212> DNA
<213> Homo sapiens

<400> 16
acttagggcg aattggagct ccccgcggtg gcggccgccc gggcaggtac cctataaatt 60
tatacaaata aaagagttta agggagttca aggatgccat atatatattt taaaaaaatt 120
tctaagggaa gtctaaaaaa cataaattat aatattaccc aaaataagat gctacttttc 180
acctaaccaa gtcctgcctc atttcacact ttaacctcct aagtatattc ataatcctac 240
caaaagttgt tttctttaaa aagtaagaaa ctttagggcc agcgcaatgg tgcaagcctg 300
taatccctgc actttgggag gccgaggcag gtgaatcctt taaggtcagg agttcgagac 360
cagcctggcc aacatggtga gacacactcc cccacccctg cccagtctct agtaaaaatg 420
caaaaattag ccgggccgtg 440

<210> 17
<211> 227

<212> DNA
<213> Homo sapiens

<400> 17
tccaggcgta acaacttggg gaaacaatcc cggatggcac ttacataggc ggactggtcc 60
gagaaggtgc tgcacaacgg gttcccttct agccatagct cttcgagctt cagccctttc 120
accttgccca actcccacgc cgactccagc ttatttttgg agagattcag ggtcttgact 180
ttgggagcct tctctgtaat gtcagaaagg ccatccagct ggtacct 227

<210> 18
<211> 263
<212> DNA
<213> Homo sapiens

<400> 18
tatagggcga attggagctc cccgcggtgg cggccgtcca ggcgtaacaa cttggggaaa 60
caatcccgga tggcacttac ataggcggac tggtccgaga aggtgctgca caacgggttc 120
ccttctagcc atagctcttc gagcttcagc cctttcacct tgcccaactc ccacgctgac 180
tccagcttat ttttggagag attcagggtc ttgactttgg gagccttctc tgtaatgtca 240
gaaaggccat ccagctggta cct 263

<210> 19
<211> 265
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(265)
<223> n = A,T,C or G

<400> 19
ccgcggtggc ggccgtccag gcgtaacaac ttggggaaac aatcccggat ggcacttaca 60
taggcggact ggtccgagaa ggtgctgcac aacgggttcc cttctagcca tagctcttcg 120
agcttcagcc ctttcacctt gcccaactcc cacgctgact tcagcttatt tttggagaga 180
ttcagggtc ttgactttgg ggagccttct tttgtaatgt cagaaanggc catncaagct 240
ggtaccttng gccgctctag aacta 265

<210> 20
<211> 260
<212> DNA
<213> Homo sapiens

<400> 20
agggcgaatt ggagctcccc gcggtggcgg ccgtccaggc gtaacaactt ggggaaacaa 60
tcccggatgg cacttacata ggcggactgg tccgagaagg tgctgcacaa cgggttccct 120
tctagccata gctcttcgag cttcagccct ttcaccttgc ccaactccca cgccgactcc 180
agcttatttt tggagagatt cagggtcttg actttgggag ccttctctgt aatgtcagaa 240
aggccatcca gctggtacct 260

<210> 21
<211> 313
<212> DNA
<213> Homo sapiens

<400> 21
aggtactaca aagctcagtc cccagatgag gggggccctgg tcaccgcagc caggaacttt 60
ggttttgttt tccgctctcg cacccccaaa acaatcaccg tccatgagat gggcacagcc 120
atcacctacc agctgctggc catcctggac ttcaacaaca tccgcaagcg gatgtcggtc 180
atagtgcgga atccagaggg gaagatccga ctctactgca aaggggctga cactatccta 240
ctggacagac tgcaccactc cactcaagag ctgctcaaca ccaccatgga ccaccttaat 300

gagtacctgc ccg 313

<210> 22
<211> 346
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(346)
<223> n = A,T,C or G

<400> 22
agggcgaatt ggagctcacc gcggtggcgg ccgaggtact acaaagctca gtccccagat 60
gagggggccc tggtcaccgc agccaggaac tttggttttg ntttccgctc tcgcaccccc 120
aaaacaatca ccgtccatga gatgggcaca gccatcacct accagctgct ggccatcctg 180
gacttcaaca acatccgcaa gcggatgtcg gtcatagtgc ggaatccaga ggggaagatc 240
cgactctact gcaaaggggc tgacactatn ctactggaca gactgcacca ctncactcaa 300
gagctgntca acaccaccat ggaccacctt aatgagtacc tgcccg 346

<210> 23
<211> 263
<212> DNA
<213> Homo sapiens

<400> 23
cttagggcga attggagctc cccgcggtgg cggccgtcca ggcgtaacaa cttggggaaa 60
caatcccgga tggcacttac ataggcggac tggtccgaga aggtgctgca caacgggttc 120
ccttctagcc atagctcttc gagcttcagc cctttcacct tgcccaactc ccacgctgac 180
tccagcttat ttttggagag attcagggtc ttgactttgg gagccttctc tgtaatgtca 240
gaaaggccat ccagctggta cct 263

<210> 24
<211> 564
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(564)
<223> n = A,T,C or G

<400> 24
ccctttggag cggccgcccg ggcaggtaca tatgatctaa tttagaaagt ccagaattgg 60
cttcatacag aaaagtgatt actttcattt tacaaattac tttaaaattt tggtaaagtt 120
tctgttaggc ttctggtcta cagtgaggta ttttaaaaat aaaggttata ttagaatcct 180
caacagatct ctttaaaatt acctcctgtg taaccaccac caaatcctat cttctaccac 240
aattacccct tcccccaatg ccaagaccaa agcacaataa tgaatatttt tattgaagtt 300
cgatattcat aaataagttg caaaataaga agttggatat atttttaatt cacaatagaa 360
aaagttgaca acatagaaaa tgctgctttg cactgaaata cttaaaatta tgaaagtttt 420
caagtaaaga aattaaagcc ttttataaaa atccacccac cattcttgat tttcattttt 480
atggaacttg gatcagaaaa attcatcttt tttaacccct gccctaaatt tttcttggng 540
gaattaaata gaagtaaact nttt 564

<210> 25
<211> 389
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(389)
<223> n = A,T,C or G

<400> 25
ccgcggtggc ggccgaggta ctcctcaggg tcttttcaga gatgccctcg ataaatttca 60
agacagcttt ggcctggtct agagtcttac agcagtccac caacacaccc acaggctggg 120
tgtcctgcaa gctctccttc aactccctca gctccagatc agaaggacca agactctcat 180
ccggagtctg gggaggcagg gcctccatgg tggcaacgtg ggaggagatg ggcaggatgt 240
tgagctggtc atcaatgacg agacacttct tacaagaggc cagagacaga ataaaccttt 300
cattaaatct tcccaccaca tcctgatggg cctcagttct gtacctgccc gggcggnccg 360
ctctagaact aggtggatcc cccgggctg 389

<210> 26
<211> 450
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(450)
<223> n = A,T,C or G

<400> 26
tnggcgaatt ggagctcccc gcggtggcgg ccgaggtaca gtaatcctgc ctgatagagt 60
agtctggaat gagaattact ttttgggtga gagagttctc cattttaatg tttctaaagt 120
ttttcatatg aacttggcat tggaaaaggg aggtaaagaa aaaggacgtt tactaaaagc 180
agtgtctact cttccccttt gtgagtgttt attcatggct aatgaaaaaa agagaaggac 240
tcttgggttt tgtgttgcca tgttaagcat ggagagggat gcttgacagc atgctaattg 300
aagccagagc aagtatgtcc ttcatcaggt aatcaggaac tcttcagttg aagctgagga 360
actaactgat tagttggntg atcataatat aattggttac aaagtgggaa gtgccagctg 420
gcttaagtac ctgcccgggc ggccgctcta 450

<210> 27
<211> 544
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(544)
<223> n = A,T,C or G

<400> 27
gctccccgcg gtggcggccg cccgggcagg tacnagaact tctatgcaca cctccctgag 60
agtctgggaa ccttcaccgc tgacctgtgt gagatgttcc cagcaggcat ttatgacacc 120
aaatatgctg ctgagtttca tgcccgtttc gtggcctcct acttagaata tgccttccgg 180
aaatgtgaac gggaaaatgg gaagcagcgg gcagctggca gcccacacct taccctggag 240
ttcttgcaac tattccttcc agcntggggg gaccatattt gattacccgn tggttggctg 300
gccccaagca ancccaccgg tccttaatcc caccagcatt cttgtggaca accttcttcg 360
ggcttatggg cttggtgccc ccctggggac cacaagtgtc ctcaagtctc accgatattg 420
accttatcat tgacactgat gaggctgcgg cagaggacaa gcggcgacgg cgacgacgta 480
ggggaaaaac ggaagagggc ttttattgaa cctaccgggg acacagacct ntgggggaag 540
gcta 544

<210> 28
<211> 619
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(619)
<223> n = A,T,C or G

<400> 28
cgaattggag ctccccgcgg tggcggccgc ccgggcaggt acctgagaag gcagctcacg 60
aaacccaggc ctgtgatcct ggacccggcg gaccctacag gaaacttggg tggtggagac 120
ccaaagggtt ggaggcagct ggcacaagag gctgaggcct ggctgaatta cccatgcttt 180
aagaattggg atgggtcccc agtgagctcc tggattctgc tgatgagaca aaggctcaga 240
gaggtgaggn cactttggtt naaggccttc anctaacaag tgggnggaaa tggaattcaa 300
gctcaagtgg acttttaaag nccagtgctc atgtcactgt gctaaacaag cctgccttgt 360
cacatcccca cctntcatct gaccaatggg agactctgag cagctgagtg acttgggttg 420
tcacacagct aaacaggggc aaaggaccca gtcttggatc tttccacctc caaagcagga 480
atcttgtctg attccagggg gattgatgat gttgcagatg gctaggaagc agactccagg 540
atgggnattt taagtatgca gggatgttct gggggagagc ccactgggaa ccaagcactt 600
aangggaang gggggaaag 619

<210> 29
<211> 484
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(484)
<223> n = A,T,C or G

<400> 29
cnattggagc tccccgcggt ggcggccgag gtactggaac agggataagt tcttggataa 60
ggtgccaaca tacctataaa agctgatttt tgagtaaatt attgattcta acatatgtaa 120
tggatttggt gtgataattt tctgatcttt aactataagt gactttttat tctccaccag 180
aaaagataaa tgactgagaa tgtaagtctg cgctctgatt aacacaatgg agaaacggaa 240
aaactatctc tgnttaaaaa ctgnntcccn gcattcttct gatatcaaat aagaaggaag 300
ggaaataaac ctttttttgng gtgtagatag aaaaacatac ctgaggccag gtgcagtgga 360
tccacgcctt gtaatcccag cacttttggg aggccaaggc ngggccagat cagctgaggt 420
caggagttcg agaccagcct ggccaacatg gtgaaatcac cgtctctact aaaaatacaa 480
aaat 484

<210> 30
<211> 507
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(507)
<223> n = A,T,C or G

<400> 30
cgaatggact ccaccgcggt ggcggccgcc cgggcaggac aagctttttt tttttttttt 60
tttttttttt ttttgccaga gagcaagttt atttggtgaa tgctgacggc aaacattatc 120
caagagagac aagatgggaa agttgntnan acaagaaaag cctagggaaa ctttttngnt 180
tagatncaaa nattnnacac cngggnaaan gggcncggac cttcttgggg gaanactggn 240
gnaaaggntc ctttaatccn attttaagna cccaatgncg gnacctaagc ttcttgntgg 300
gaaaaaggga aaaggggtgg gggattgaag cccatgnggg aaacaagggg ntttgatggg 360
aangggggggg ttaccccttg ggcccgnctt cttaagaaca tnnggnggga ttcnccccccc 420
ggggcnttgg cnagggaaaa ttctgataat tnaaaggcnt tnattcnnaa ttancccgtt 480
ccnnanccctt nngaaggggg ggggggg 507

<210> 31
<211> 602
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(602)
<223> n = A,T,C or G

<400> 31
gttaattgcg ccgcttggcn gtaatcatgn gtcataagct ggttttcctg tgtgaaattt 60
gttatccngc tcacaaattc cacaccaacc ataaccggaa gcccggggta agcattaaaa 120
aagngtaaaa agcctngggn gggtggccta aattggaagg tngangctaa actccacatt 180
taaattgccg gttggcgcnt cacctgcacc cgcttttcca agtacggggg aaaaaccctt 240
ggtccgttgc ccaagtcttg ccatttaaaa atgaaattcc ggggccaaac cgccgccggg 300
ngnggaagga gggccgngtt ttnggccggt aatttggggg ccgcctcttc ccggctttct 360
cttcgctcaa cttggacttc gcttgccgcc tcggggttcg gttccgggct tggcgggcga 420
ggccgggtta tcaagactca cttcaaaagg ggccgggtaa ataccgggtt attccaccaa 480
gaaatcaggg ggggataaac cgccaaggga aaagaaacaa ttgttgnaag caaaaaaggg 540
cccanccnaa aaaggggcca agggaacccg taaaaaaagg ccccgccgtt gncttgggcc 600
gt 602

<210> 32
<211> 472
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G

<400> 32
ccgggcaggt gccagcgccg cgctcatttt tccaggtaga cctactctgt ggaacggaag 60
tgccctagct gctttgtttt tgtagcactt gctggctgaa tttttctttt gctaatcgct 120
aaccagaaag tctggttaga gggggctcaa ctcaatccct ttggtcccca gcgccagaac 180
aagagttaat tctggaaaat tcagtacctc ggccgctcta gtaactagtg gnatcccccc 240
gggcctgcag ggaattcgat atccaagcgt tatcggatac ccgtcgacct cgaggggggg 300
ggcccggtac ccagcttntt gttcccttta gtgagnggtt aaatttgccg ccgccttggc 360
gttaatcatg ggncattagg ctgtttctct gtgtgaaaat tgttatcccg ctcacaattc 420
tcacaccaac catacgaggc ncgggnagcc ataaaaggtg ttaaaagccc tg 472

<210> 33
<211> 593
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(593)
<223> n = A,T,C or G

<400> 33
ttggagctcc accgnngngg cggccgaggt acactcgtct tgaataggct aaaggttggt 60
cttcaggttg tggcagtcaa ggctccaggg tttggtgaca atagaaagaa ccagcttaaa 120
gatatggcta ttgctactgg tggtgcagtg tttggagaan agggnattga cccctgaatc 180
ttggaaggac cgttcagccc tcatgactta aggaaaaagt ttggagaggg tcatttgtga 240
cccaaagacg attgccatgc tccttaaaaa gggaaaaagg tgacaaaggc tcaaaattga 300
aaaaacgtat tttcaagnaa aatcaattng agcaagttta gatgtcacaa actaagtgna 360
atattgaaaa agggaaaaaa cttgaaatga acnggctttg canaaaactt tnaanaatgg 420
gaagtgggcc tggtggcttg aagggtttgg gtggngacca aagttgaatt gtttgaaagt 480
tgaantgana aaaggaanag gaccaggagt tcaccaggat ggcccnttta aatggcctan 540
caaagaagct tgcttgnttg gaannaaagg cctttggttt ttgggggagg ggg 593

<210> 34
<211> 258
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(258)
<223> n = A,T,C or G

<400> 34
tccaccgcgg tggcggccga ggtacctcct gggaaagggg ccgctgctgt ctggtgccct 60
gtgagctgtg attgattgcc tttggtcagt aatgcgttca ggagtccaca ccaggcacag 120
atggggcctt gaaacgcttt gtcatgcttn ttcaagtacc ttgccccggg gccggcncgc 180
tctagaacta gtgggatccc ccgggcctgc agggaattcc gatatcaagc ttatcgatta 240
cccgtcggac tctcgagg 258

<210> 35
<211> 486
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(486)
<223> n = A,T,C or G

<400> 35
gccgaggtac cactgcccac attcctggtt gctggaggga gcctggcntt cggaacgctc 60
ntctgcattg ccattgttct gaggaatcat tctgcctgaa aaacgtgtgg tggccttaat 120
ggcacagcct ggcttgaaga tgaggcagga gtgggaaagt gcccaatcca agaagcaagg 180
agggaaactt gctcacaccc cttccagaag caatggaacc gtctcccctc tcaccaccaa 240
ggtcacacag gaaaggncac cagcaggaac atcatattga tgctaatggc cccctcccca 300
tttccctgtt gccatctttt acccccttgaa ctactgtacc ttgcccgggc gggccgctcg 360
atgcgttgcg cttacttgcc cgntttccaa gtccgggaaa acctggccgt gccaagcttg 420
catttaaatg naatcgggcc aacccncccg gggagagggc ggttttgcgt aattgggcgg 480
cttttt 486

<210> 36
<211> 440
<212> DNA
<213> Homo sapiens

<400> 36
aggtgtggaa ctgaggatgc agcattcaag gttctatctt ggaagcagag actgtgccct 60
caccagatgc tgaacctgct gagcaccctg atcttccact tcaccttcat cagaactact 120
ggggctgtgg ctgagatgtc acatggcaga taggatcaca aatttctgtt gtatctggat 180
ggagatcagc aggaggatct atgggtgaga agaagcacag ttacagatgg attctagagc 240
ctgcttgctg acacaggctt gcaactgcgg actttataag cttagttttt aatctgctat 300
cagctagcat aataccataa atgcataaaa aactaagtat tcagtcttac gagaaatgct 360
atcttgacct gaccctttct ccaaataaat tgacaaaata tctcatcgtc taggatgcca 420
gacagaaata ccagttgcaa 440

<210> 37
<211> 518
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(518)
<223> n = A,T,C or G

<400> 37
tacttagggc gaattggagc tccccgcggt ggcggcccgc ccgggcaggg tactagttta 60
attctgatct ctctctagaa ggcagaaacc acatcccaca ctcctatgca atttgttatt 120
ttggtattgt aaagtaaatg aataagaagg ggtggaggca taaagaaaat ctagtttctg 180
gctgggcagg gtggttcacg cttgtaatcc cgcactttgg gaggccaagg cgggtggatc 240
acgaggtcag gagattgagg atcatcctgg ccaacatggt gaaaccccgt tttctactaa 300
aaatacaaaa attagccggg cttggtgaca tgcgcctgna gtnctagcta ctccggaggc 360
ttaggcaggg gaattacttt nactggaagt gggaangttt tcaattaacc caagaaccgc 420
accattgcnc tnccagcctt gggcaacnag ggnngagact ttttttnttc aaaaaaattt 480
aaatttnaat ttaaaattta aaanccaaan gaaaaaaa 518

<210> 38
<211> 323
<212> DNA
<213> Homo sapiens

<400> 38
ccgcggtggc ggccgctgtg gttttgcatg tgagatgtgt ggtgggggcg gtagaaaggc 60
ttttctgcca ttttcgattt ttaaatgatg aggggcctag aatagcaaag gatcggcggt 120
ggttgcctag cttgcctgag tgctgtttta gctttggggt ggtttgatgt ttgtattgct 180
atgaggattc cagttgatga gggaggccag gcattgtaag ttgaccagcc aggtgctggt 240
gaactatgat ttggaaatct ttacgctgcg ttgtttaggc agtggcatta gactgctttt 300
acaggtagga agcagacatt ccc 323

<210> 39
<211> 250
<212> DNA
<213> Homo sapiens

<400> 39
ccgggcaggg tgccgggggc tgggatcacc atgccccttg cccgtctcgc accttgctgc 60
tgtctgtaac cccccagcac ctcccgcagg cctggacgtc ttatccctct ccttagcccc 120
aggagcgtgt ttcaggaact ctcctcacct ctgtgtcttg tggtttgcag tgatcagggc 180
caaagcggtc aagtgagaag gaagtggact ctggaaacga catttatggc aaccctatca 240
agaggatcca 250

<210> 40
<211> 378
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(378)
<223> n = A,T,C or G

<400> 40
nattggagct ccccgcggtg gcggccgagg tgaaaaagtg attctgaaga tggggacgaa 60
ggaaaatgaa aaatctaaaa cttcagattc ttcaaatgac gaatctagtt caatagaaga 120
cagttcttcc gattctgaat cagagtcaga acctgaaagt gaatctgaat ccagaagagt 180
cactaaggag aaaaaaaaaa agcttgtcaa gttctgctac gaggtggccc tggaatactt 240
gaattctggc tgatggtgta aacagctctg caaacaatcc ctttcatacc acaaagccaa 300
gaccgttcca tggtatttgt gcaaaagaga tgaagacttc tcaatatgct tattttgctt 360
tgcataattg gctctttt 378

<210> 41
<211> 156
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(156)
<223> n = A,T,C or G

<400> 41
ggcnattgga gctcnccgcg gtggcggccg aggtacaagc tttttttttt tttttttttt 60
tttttttttt tttttttttt ttttttaagg caaagcacag cccaagcccn tttnttggtt 120
gngagttgga aagggtntac cgggggtncc tgcccg 156

<210> 42
<211> 313
<212> DNA
<213> Homo sapiens

<400> 42
ctacttaggg cgaattggag ctccccgcgg tggcggccga ggtacaaagt tttatatgat 60
agtgtcttgc tgcctgtttc tacaaaagcc aagggtgtaa cattaaatgc aattttgcaa 120
ggggctgagg tgatgtggtc caagtatgta atcacttcag ggagccatat gtgaccttca 180
tacactgttg ataatggccc atgcctccca gtcaggcctg tgacacctgc tggacagcag 240
gcattccaag gcccctaagc actgagttag ctggtaaagg ttaaggaaaa agctgtattc 300
ttactacttt act 313

<210> 43
<211> 348
<212> DNA
<213> Homo sapiens

<400> 43
acttagggcg aattggagct ccccgcggtg gcggccgagg tacaaagttt tatatgatag 60
tgtcttgctg cctgtttcta caaaagccaa gggtgtaaca ttaaatgcaa ttttgcaagg 120
ggctgaggtg atgtggtcca agtatgtaat cacttcaggg agccatatgt gaccttcata 180
cactgttgat aatggccatg cctcccagtc aggcctgtga cacctgctgg acagcaggca 240
ttccaaggcc cctaagcact gagttagctg gtaaaggtta aggaaaaagc tgtattctta 300
ctactttact ccaaggtagt aaagtgtatg gaaagatgta cctgcccg 348

<210> 44
<211> 222
<212> DNA
<213> Homo sapiens

<400> 44
ccgggcaggt acaatggaac tgtattttcc caaaatgttg cagatcagtt acaacaaaca 60
gaacggcgac cgtcaaggaa aactgtcact ctgggctcct ttttgaccac agcagctatg 120
cggaagcagc tgcagcttcg ataagggcca aggggcaatt cagatcccag ggcggccgcc 180
taaagcctca cctgtccatc attactacct gcttaagtac ct 222

<210> 45
<211> 461
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(461)
<223> n = A,T,C or G

<400> 45
cccttagcgt ggtcgcggcc gaggtacaag cttttttttct tttcttttt ttttttttt 60

tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 120
tttttttttt tttttggnct tcnggaaaan cnaaaaaaac natgggggct ngatgngggg 180
gntnnnncct nnnatcccnn cnntttnggn ggccnagggg ggnaaancnn ttgnncnnan 240
gnntttnnaa ncncccnggg caanncgggn aaanncctnc ccggggggnc nttaangggn 300
aattccnanc nnntgggggn cgttnctagg ggganncnag nttgggacca agcttggggg 360
gaaacagggn caaaagtgtt tcccgnggga aaatnttntc ccntcaaant nccccaaaaa 420
aaaaaaaaag cccggaaaan annaaaagnn gtaaaaaccc c 461

<210> 46
<211> 240
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(240)
<223> n = A,T,C or G

<400> 46
ttataaaatt aacngccggc agtgtgctgg aattcgccct ttcgagcggn cgnccgggca 60
ggttctgtaa agactaaaag gcgttngctc tgagngngac aaggnggaaa cttncatgtg 120
tntcctgcca ggctctgncc ccctacgcca tcccnacacg tncccgttcc cccgaaacct 180
gnctnagtgc aatactccca ttgncatggg gtccttcacc atggnatttt tntggaaacc 240

<210> 47
<211> 368
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(368)
<223> n = A,T,C or G

<400> 47
cccttcggcc gcccgggcag gtacaagcta tttttttttt ttttttttta ttnctttttt 60
tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 120
ttaatttttt nnnggannan aattttnaaa anntattgan tttaaaaata aaaaaaaatt 180
ttttttttna aaaaantttt ttttttttna aaattttaaa acnnnttaaa aaaaaaaaan 240
aatggntngg naaaaaaaaa aaacncatta aaaaaattnn gnnggaaang ggnaaaantt 300
tnanttttttn attaaaaaaa naaaagggng tnggtttttt ttttaaaaaa aaaaanaaat 360
tttttttt 368

<210> 48
<211> 345
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(345)
<223> n = A,T,C or G

<400> 48
cccttagcgt ggtcgcggcc gaggtactcc agcctgggca acagagggag actccatcta 60
gactccatct cananaaaaa aaaaaaaaaa aaaaaaaaaa aaaggantat tctaagcact 120
agaactacat aagaatgtcc taaagcactg tatctaagca cttgaaaaga atgggacttt 180
tcggttttag ggagataact attagcaacc acacaatatg ttatctttat ggatgaataa 240
cttctggtaa tgacaccagg ggtcttacag ctacatcatt tataaaatca tgnggtcaag 300
ttttcacaca agcctgcaca atcgttctga catgcccttt ttttc 345

<210> 49
<211> 599
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(599)
<223> n = A,T,C or G

<400> 49
ccettagcgt ggtcgcggcc gaggtacaag ctntnttttt tttttttttt tttttttttt 60
tttttttttt tttttttttt tngggttttt aaaaactttn ttttntggga accgncaggt 120
ttcaaaagtt gaaggncttg ngggngggac cnanggtttc cattatnccc ccctccaatt 180
atttnttanc taggntgnat tnatttacgn tganccanag ccctnaatnc cnncccgggc 240
ggncgnnagg gcgaattnca ntacantggc ggnngttnct aggggatncn anctnggnnc 300
caagcttggg ggnatnatng ccataactnn ttcctgggtg aaattggtat ccgntcccaa 360
ttcccaccaa nnttnccagc ccgggancan aaaagtgtan aaggcggggg ngnnnctaat 420
gggnggaaac ttaccccna aantaaattt ggggntgggn gtttaattta cccggttttt 480
tcnctggggg ggnanccttt ntnnggggcc ccncntcctt ttnantaaat tcngcccanc 540
ccccccgggg gngagggggg ggtttttggg gaaanaaggc cgnntttttt ccctttttt 599

<210> 50
<211> 267
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(267)
<223> n = A,T,C or G

<400> 50
cccttagcgt ggtcgcggcc gaggtacaag cttttttttt tttttttttt tttttttttt 60
ttcttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 120
ttttttttng ggggggcccn tcaggtttnt nggggaaaaa ananangggg gccccttnnt 180
gngggccncc cangggcann anccnttgca acttgnnggg ggttcagggg aancngggnn 240
ttnntggggn nccnccaaaa aaaacct 267

<210> 51
<211> 227
<212> DNA
<213> Homo sapiens

<400> 51
cccttagcgt ggtcgcggcc gaggtactaa ccactcccaa ccccaacccc cagtgtagag 60
tgccctaaga gtaaaagaac tgtaatgagg acaatctggt atccaaattc attcaagtgt 120
gttactgagc tgtttagcaa caacatatgt agcaatcacc ctcaaaacgc aagctgcacc 180
tctggggagg aagccctggt acctgcccgg gcggccgctc gaaaggg 227

<210> 52
<211> 507
<212> DNA
<213> Homo sapiens

<400> 52
cccttagcgt ggtcgcggcc gaggtactac gaagctgcag atcattacgc tgatatgaat 60
gactgctcga aagaacaatg actctggcac agccctgctt ttcacccagg aaagcagttt 120
ttcacagaat ggctttgatt tatacttaat aaaaatggat cttaactgta gagccaccag 180
ctttcttgaa ggcaatgaat acacttcagc atttatgcta agttctgttg aatttccttc 240

tgtggtcgca tatggattgt ttccaaccat tggcacaaga caatcggtat agaagtaacc 300
aatcttagac atattcagtg tagaaataat cagatccatt gcaagctggc caacatttcc 360
aacagatact gctggcatta ggagggtgaa gccggcaagg tcgggggccg actccccgca 420
gggaacgaac atggtcgcag tggggtggcc agcagggact aaccgcggcc ccggcaagaa 480
cacctgcccg ggcgccgctc gaaaggg 507

<210> 53
<211> 515
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(515)
<223> n = A,T,C or G

<400> 53
ttagggcgaa ttggagctcn ccgcggtggc ggccgcccgg gcaggtcgca gccttgccgg 60
tgaagcgtcc aggaaagtta acatctaccc caggaaacca gatctccagt cagccacagg 120
gtgagacaaa ggaggtgtcg cagcagccac cagagaaaca cggaccaaga gagaaggtga 180
tgtgtgcccc tgagaagagg attattcagc ctgaattaga gcttgggaac gagactgggt 240
gtgctcatct tacttgtgag ggagacaaaa aggaagaggt ttcaggcagt aataaaagcg 300
gcaaggttca tgcctgcaca ttagccagat tggcaaactt ctgctttact cccccatcgg 360
aatccaaatc aaaatcccct cctcctgaaa ggaagaaccg aggtgagaga ggcccaagct 420
cccctcctac aaccacagct ccaatgcgtg tcaagtaaaa ggaaatcttt tcagctccgt 480
gggtccaccg agaaactgat tgtttccaaa gaatc 515

<210> 54
<211> 208
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(208)
<223> n = A,T,C or G

<400> 54
gggcgaattg gagctccccg cggtggcggc cgaggtcaag cttttttttt tttttttttt 60
tttttttttt aagaaaactt gtttttattt ttaaatactt tgaaaagctc tttcagagca 120
atataaatga gtgcctggga ggaggaggtt ttgtgccaga gccttgccac ctgnccgggc 180
ggccngcttn ttanaacttg tgggntcc 208

<210> 55
<211> 227
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(227)
<223> n = A,T,C or G

<400> 55
gaattggagc tcnccgcggt ggcggccgag gtggctgctc gggttacgat cgtcaggtga 60
gggaggaagg gatagccagc gcgaaggaag tgctggagtc gtgtgttttg gctgcgcgtg 120
atcctgcgtg ggtcgggagg tgtttctgtg aaaagcctaa agattagact gtaagaaaag 180
aaaatagaag ccatgtttcg aagacctgta ttacaggtac ctgcccg 227

<210> 56
<211> 564

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(564)
<223> n = A,T,C or G

<400> 56
ttagggcgaa ttggagctcc ccgcggnggc ggccgaggta cccacgtcct agggaaggag 60
aagatcgcca gcatgctgcc ggagcagctc tacttcctgc agagcccccg gaggaggagc 120
ccgaatacca ccccgacgcc tcagcccaag aatcatttgc tgtttcaaat agagaactgt 180
gcgatgatga gaaagagttc atacattttc cagtatgtga ggggacctct caacctgaac 240
cctngtgttc agctgtcaga ataacagcca ataaaaacta caggagcaaa acctctcagg 300
aaggtgcttt aaaaaagatg catgaggaag aacaccatca acaaatgtcc atcttacaac 360
tgcaactgat acaaatgaat gaggtgcatg tggccaaaat ccagcagata gagcgagagt 420
gtgagatggc anaggaggaa cacaggataa aaatggaagt tctcaataaa aagaagatgt 480
attgggaaag aaaactacaa acttttacca aggaatggcc tgtttcctca tttaaccggc 540
cctttcccaa ttcgccctaa gact 564

<210> 57
<211> 322
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(322)
<223> n = A,T,C or G

<400> 57
ttagggcgaa ttggagctca ccgcggtggc ggccgcccgg gcaggtacga tgggcggcaa 60
gcaagccata tccatagcct ccaaagccag agccatatcc gtagcctcca aagccagagc 120
catatccgta gcttccaaag ccagagccat atccgtagcc tncatagcca cagccagaac 180
cccgtctgca gaagctgcca catccacagc catagccata gcccaggcca ccgaagcctc 240
cacagctgta gcccaggcct ccgtagtagc tgccgtagtg actcatggtg tcaggagtgg 300
tgaagttggn tttgttacct cn 322

<210> 58
<211> 266
<212> DNA
<213> Homo sapiens

<400> 58
tagggcgaat tggagctcac cgcggtggcg gccgaggtct acggaggcct gggctacaag 60
ctgtggaggc ttcggtggcc tgggctatgg ctatggctgt ggatgtggca gcttctgcag 120
acggggttct ggctgtggct atggaggcta cggatatggc tctggctttg gaagctacgg 180
atatggctct ggctttggag gctacggata tggctctggc tttggaggct atggatatgg 240
ctgctgccgc ccatcgtacc tgcccg 266

<210> 59
<211> 534
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(534)
<223> n = A,T,C or G

<400> 59

tatagggcga attggagctc cccgcggtgg cggccgaggt acaagctttt tttttttttt 60
ttttttttc tttttttttt ttnattttt tttttttttt tttttttttt tttttttttt 120
tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttaaaannn 180
ngggnnaaaa annaaaaaaa aaagggncna aaanncnngg nanggggnnn nccnnccnaa 240
anccngggna aaaanngggg ggnanaaatt nnnnaaaaaa ancaaaangg ncgggnnaan 300
aaaaaangcc cnnngaaant ttnnanngga aaannncccc ccnttnaaaa nccnncncnn 360
angggggntt ttttngggng gntnnnaaaa gnnngggggg gataaaaaaa cnggccnttt 420
aanatnaaaa nttttttttt nggncccccct naaaaaaaaa annnnnnccc nttccnanng 480
ntttnanccc ngggntttgn ngggggnata cnaaatnggg naaacccccc cccc 534

<210> 60
<211> 535
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(535)
<223> n = A,T,C or G

<400> 60
ccgggcaggt actagtggat gggggtcagg gtgtcactcc aaggccctct acagacccag 60
agaagaggaa agtcaaaaaa gccagatatg agactgctga agtggtgtta agaaatatag 120
gcaaggtaaa gggaacaaga ttctggggct cccttcctac ttgtgtccct cactggacct 180
canacacccn tacctctaan actggttntt aagaaggctg aacagtaang aagcattcca 240
atagctttnt gaaactccca aggctgtttt naagtagtnc gaaagccatc cctggnactg 300
ttcaggtgcc ttttctattt tcccaccctt agctctctgc ccttttcttt gaagcctcac 360
agggttttcc cagaaattta caagtaccct tcggtctgcc tnttangaaa nttaggntgg 420
gnatcccccc cggggctgct agggaaattt ccganttatt tnaagccttt atctgaatna 480
cccgtttcga ccttcgaagn ggggggcnc ccggtaaccc caagcctttt ttgtt 535

<210> 61
<211> 58
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(58)
<223> n = A,T,C or G

<400> 61
tgctggcngt tttttccata aggctccgcc cccctgacga agcatcacaa aaatcgac 58

<210> 62
<211> 87
<212> DNA
<213> Homo sapiens

<400> 62
cttagggcga attggagctc cccgcggtgg cggcccgagg tacgagtgga ggacagggac 60
agagccctct gtggtggaac gacccca 87

<210> 63
<211> 134
<212> DNA
<213> Homo sapiens

<400> 63
cttagggcga attggagctc cccgcggtgg gcggccgagg tactgataac ttcttgcttc 60
agttcatcta caatgatctt tccctctaaa tcccagatct tgatgctggg gcctgtggca 120

gcacacagcc agta 134

<210> 64
<211> 288
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(288)
<223> n = A,T,C or G

<400> 64
aattgnagct caccgcgggg gcggccgccc gggcaggtac gatgggcggc agcagccata 60
tccatagcct ccaaagccag agccatatcc gtagcctcca aagccagagc catatccgta 120
gcttccaaag ccagagccat atccgtagcc tccatagcca cagccagaac ccccgtctgc 180
agaagctgcc acatccacag ccatagccat agcccaggcc acccgaagcc tncacaagct 240
gtagcccagg ccttcgtaag accttcggcg cgctctaaga actagntg 288

<210> 65
<211> 333
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(333)
<223> n = A,T,C or G

<400> 65
ccgggcaggt gtgtcggcgc cgccactgtc cggccacagc ctaacgctct ttgcttgtcg 60
tttggtgggc tttggggcca aggcggnccc cgttttttgt gtttggcgtt ggaattaaac 120
aaccaccatn tttagcaaaa agggcaaanc ccaagaccac caannagcnc ccttaacggt 180
nnaaaattca atttntttgc cattnttttt ancaanttaa aaganttnag ggagttnaaa 240
gagggccttn aacnttgatt gntnagaaca gganattggc tttaattcga caaagggaaa 300
natttgnaat gaatnttgct tnggcttttt ttt 333

<210> 66
<211> 108
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(108)
<223> n = A,T,C or G

<400> 66
caaggactng ctagtgctgt ttggtggctg gacgcggtca agcccttatn cnctacacca 60
nccagaggag antctttgat gaaaaacaca cttactcacc ctctaaaa 108

<210> 67
<211> 260
<212> DNA
<213> Homo sapiens

<400> 67
aggtacctga gacttccagt ggatgagggt cagcctctgg agctgtgaaa acctgggccg 60
acagcggagg cagagctgca ctaatgttcc cacacgagtc cttcccaccc aacaccttgg 120
tgcagggaga cggaaggagc ctggagccag gggtaaggaa gagagggaac ccctcaccga 180
ttgggcataa gccactccag ggaagcaagg agcttcttct ccgccttgac cccgcccttg 240

gcaggccggc cacctgcccg

<210> 68
<211> 455
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(455)
<223> n = A,T,C or G

<400> 68
cgaattggag ctccccgcgg tggcggccga ggtacagtaa tcctgcctga tagagtatgt 60
ctggaatgag aattactttt tgggtgagag agttctccat tttaatgttt ctaaagtttt 120
tcatatgaac ttggcattgg aaaagggagg taaagaaaaa ggacgtttac taaaagcagt 180
gtctactctt cccctttgtg agtgtttatt catggctaat gaaaaaaaga gaaggactct 240
tgggttttgt gttgccatgt taagcatgga gagggatgct tgacagcatg ctaattgaag 300
ccagagcaag tatgtccttc atcaggtaat caggaactct tcagttgaag ctgaggaact 360
aactgattag ttgttgatca taatataatt ggttacaaag tgggaaagtg ccagctggct 420
ttaagtacct gcccgggcgg ncgctctaaa actag 455

<210> 69
<211> 476
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(476)
<223> n = A,T,C or G

<400> 69
gctcccgcgg tggcggccgc ccgggcaggt acagaagaaa acaggttctg gaatctccac 60
tccagccaat aaaagtctct ctgcttcatt gttttgtctg tgcttctttt ctccctcccg 120
ttcggctcta cgagctgcag ctaatgcact ggacttggat gagacaatgg tgtctccagt 180
ggcagtatgt ttaagcccaa cagtcaaagc aatgttacca gcagtcaatg aagggatttc 240
tacatgttgg tcaagcaaaa cgggnaaaag canacgactt attctttccg ggcagttcca 300
ttnataatta tgaatggcca actgggggtt tttatagtgc ctgagttaaa ngccgcataa 360
aaaccaagtg ggtcctcgct tgctttgtca tgggaagaaa ctttaaatgc caatgcacat 420
aaagtcatcc ttataccact gcagaaattc aacctcggcc gctctagaac taggtg 476

<210> 70
<211> 446
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(446)
<223> n = A,T,C or G

<400> 70
gctccccgcg gtggcggccg agtagcngcc agnaaggaga gactgggatg gttttttatc 60
tgttgctttc ttaaatcaag ggccgccggg ccggagatgg atggagggac cggggatttg 120
ggaactcgaa aacgagctga gggaagggag cctgtggaaa tagactggag tctgggtagt 180
gtcgtttcct agagaatggt ctcgaagtaa cttctcggta aagtcttcac ggaatttcca 240
gaccacactt tgccccnctg ggaggctttt tangaccccg agacgtgtgc aggctttttt 300
caggccaaat gaaagtttaa tccctttgt gacttcccga cccgaagcaa ggaatcgcaa 360
aaggcatttc aatgcacctt cccacattcg aaggaagatt atgtcttccc ctctttccaa 420
agagctgaga caggaagtnc ctcggc 446

<210> 71
<211> 348
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(348)
<223> n = A,T,C or G

<400> 71
gctccaccgc ggtggcggcc gcccgggcag gacagtgctt gctggcagtt aagatgtcag 60
gacagtctaa gctgagaacc ccttctctgc ccaccttaac agacctctag ggttcttaac 120
ccagcaatca agtttgccta tcctagaggt ggcggatttg atcatttggt gtgttgggca 180
atttttgttt tactgtctgg ttccttctgc gtgaattacc accaccacca cttgtgcatc 240
tcagtcttgg gngntggctn ggtancgtat tccctggggn gatacccatt caatggtctt 300
aatgnaccct nggnccgntc tagaactagg tggatccccc gggctgga 348

<210> 72
<211> 588
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(588)
<223> n = A,T,C or G

<400> 72
gctccaccgc ggtggcggcc gaggtacttg tcatataaaa tcatggcatc attctgtgcc 60
tcctgtccat catattggcc ctttttggca gcaagctgag actggaagtt atctgctgcc 120
aaccagaatt gtaagatatt cactgcatcc tctttttcca tgtacaatta cccaccactg 180
gatttgactc agagaggacc cccagagggt gtctccatct tccctattta ttttcagccc 240
ttgagggctt cattgnnaaa naaaaggcca aaggccccca gggaaggtgg acatactcct 300
ggaagnttca cctcctggtc cttgttncgg tccaagtctt ccatcaagcc ttgcaatttc 360
aagcatnctg caagcttcga gccaaatggt gaagctnctt ctgggatcag ctcctttcag 420
gctccttctt gctcaagggt gttgcttgtc acccttcctg ccggaggtnc cttgccccgg 480
ggccgggccg cttctaagaa actagtggga ntccccccgg gccttgcagg gaattttgat 540
nnttnaagct ttatttgaat acccgntcgn ccctcgaagg gggggggg 588

<210> 73
<211> 182
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(182)
<223> n = A,T,C or G

<400> 73
cgaattggag ctccccgcgg tggcggccga ggtacaagct tntttttttt tttttttttt 60
tttttaatt tntttttttt tttttnggt ttttttcctt tttataagat ttttttcttt 120
gnttttgntt aatatgaaaa ttacttgaaa agacaagggc caaccccncc aggcagctcg 180
gc 182

<210> 74
<211> 415
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(415)
<223> n = A,T,C or G

<400> 74
cnccgcggtg gcggccgccg ggcaggtgga gaatggccca gtcctctccc aattccacac 60
aggggaggtg ataggcattg ctttcgtgta aattatgtaa tgcaaaattt ttttaatctt 120
cgccttaata ctttttttatt ttgttttatt ttgaatgatg agccttcgtg ccccccccttc 180
cccctttttt gtcccccaac ttgagatgta tgaaggcttt tggtctccct gggagtgggt 240
ggaggcagnc nggggcttaa cctgtaccct ngggccggtc tagaactagn gggatccccc 300
gggctgnagg aatttcgata ttcaagctta ttcgataccg nccgaacctc gagggggggg 360
gcccgggtac ccagcttttg gttcccttta gtgangggggt taattgcgcg cttgn 415

<210> 75
<211> 580
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(580)
<223> n = A,T,C or G

<400> 75
caattggagc tccccgcggt ggcggccgcc cgggcaggta cttgtttgca agcaggactt 60
tgaggcaagt gtgggccact gtggtggcag tggaggtggg gtgtttggga ggctgcgtgc 120
cagtcaagaa gaaaaaggtt tgcattctca cattgccagg atgataagtt cctttccttt 180
tctttaaaga agttgaagtt taggaatcct ttggtgccaa ctggtgtttg aaagtaggga 240
cctcanaggt ttacctagag aaccaggngg tttttnaggg ttatntttan atgtttcaca 300
cccggaangg ttttaaanca ctaaaaatat ataaatttat aggttaaagg gctaaaaaag 360
tattatttta ttgcaaaagg gatgttcata aggcccagta tgatttnata aatgcaatct 420
ccccttgatt taaacacaca gatacacaca cacacacaca cacacacaaa ccttctgcct 480
tttgatgttt acaggattta atacagtttt attttttaaa gataagatcc tttttatagg 540
tggaagaaaa aaaaaccaat tcttgggaaa gaaaaaaaaa 580

<210> 76
<211> 346
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(346)
<223> n = A,T,C or G

<400> 76
aggtacatga tgatacttgc tttccagaag ctggcatttg catattataa aacgttaaga 60
agaaggctga cctcggaatg taacagacaa tagttttatg tttcttctca atatacagtg 120
acctggaagg actccctgtt gttaaaacct gcttccccac tgctcagcct gccatcagcc 180
atccagctgc agagcagtgg agagtaggtc tcaccagttt ttgngcaaga tgcttttaaa 240
cccaaagtcc ttntgcttac ttnattggga caatattgnc cttttctaag aaaacccttt 300
ttaagatcct gtacctgccc gggcggcccg cttctaagaa ctagtg 346

<210> 77
<211> 217
<212> DNA
<213> Homo sapiens

<400> 77

ccccgcggtg gcggccgggg gtcccgcccc gaaaaggggc tacagctctg agatgaagac 60
ggaggacgag ctgcgggtgc ggcacctgga ggaggagaac cgaggaattg tggtgcttgg 120
aataaacaga gcttatggca aaaattcact cagtaaaaat cttataaaaa tgctatcaaa 180
agctgtggat gctttgaaat ctgataagaa agtacct 217

<210> 78
<211> 499
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(499)
<223> n = A,T,C or G

<400> 78
aggtacatcc atcggcctgt aagggtctgt attatggctg tgaatatatg ttttcaggac 60
agccccctgg atgagagata agagagttcc tggctcaaaa aaggacaaga ttctttactg 120
agattgggaa gtatgggcta cttagaaacg ttggagcagc cacccctggc attccacatg 180
tcaccatttc taggatcttg gcctctctgt gaggtttatg caccaatgct ggcagccctg 240
ggcaggggcc tcggcctcct ttttgttttc cacttcagac aggtacctgc ccgggcggcc 300
gcccgggcag gtacaagctt tttttttttt tttttttttt tctttttttt tttttttttt 360
tttttttttt tttttttaa nagtntgatc ttatttnttt gttnctnaaa aaattttntt 420
tttgactgga ttcaaactta aaagtnaaac ctcncanagn ggaaagtttg cncntnggcc 480
gttttaaaac taggggatc 499

<210> 79
<211> 517
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(517)
<223> n = A,T,C or G

<400> 79
aggtacaagc tttttttttt tttttttttt ttggcaggct ctcaggaatc ctttattctt 60
gtagtaataa taatactaac aaacagttgg ggaactaggg agaaaaccac gaccattaaa 120
actgtttgtg ggnnnaantt accctnnang ccntccantt tttctgntga cttggacaat 180
gtgggaggtt gaagncgggt gagagaacat ggaaggcccg cccttctcag gggaagaggt 240
ggtanntgac caannacagg cngnggaaaa agcaaacttc tatgtnggtg cccttttgta 300
tcttgggaca ctgaggcatc cnttcatacn ctnattcacc catctccccc tggcactccc 360
ccagaaaaac ctggaaattg acacatgtgg ctaactaagg acttttattt cnaaacaaga 420
anattaaaaa ataaaaaaat tgganagctc tttttccctg ggtttgggga agggagtcag 480
nggnagggga aattcccaca tggctaggcc agtacct 517

<210> 80
<211> 639
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(639)
<223> n = A,T,C or G

<400> 80
gagctncacc gcggtggcgg ccgcccgggc aggtaccatt tccagataag aaatcagctt 60
ggggctgngg ctcggggagg cacacactga aaaacacaag cctaccttgg cgatgagatg 120
aagaaacata ctacaggaaa cgttaacgta gagagaagag cacagggcag aacacaacac 180

agaaaggcgg gtcccatcca gtgaggaagc tctttatccc tggcaaccct tcccacaatc 240
aggggtctcc agtccgatgg cccattggtc ataaggcttt gccttgggga aacaggagcc 300
cacccctcctc tgccccccact tctggctgcc tcactcccct gctcaaaagn ctttgatttt 360
tggaatntct gtgggggctt gcgtggtcac agnagggccc ctgagggacc ttgnaagagt 420
gcctttcagg gatggtgtca agggtccacn ttcggcaggg ggggttggga gggagggagg 480
cagnagttca ccctgcgagg cagctcgctc tcctttttca ttggatgggc ctgtcactca 540
gccgcagcag ggatgggctg gtcttgaggt gataacattc ccattcatgt gaaggttgca 600
cttcatcggc tgcccgtcca gacaccggtt gttgtacct 639

<210> 81
<211> 632
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(632)
<223> n = A,T,C or G

<400> 81
ccgggcaggt actcgtcaat gggctcggtc atatatacca cctggaagcc ccgtntccgc 60
actcgctcca caaaagctga gttggccacc tgctctttgc tctcaccagt gatgtaatac 120
aatggacttg ctgtgtctcc ttcatgcgag aaacatactc tgacagagat gtcatctcat 180
ctccagcact gggaggtatg atagcgcagc agctcagaca ggccggcagg ccggttagnt 240
ggcagtcttc ngtggcattc caagctntga ggatttttag gaggaatgcc ttcataggaa 300
tttncttgta attactcctt gtanttctgc caagctcagg agaagtagnc tcaaggcact 360
ttcttnaaca atgctttttg cgcaatgnac tttttcanag gatttttgct ccngcctggg 420
agccattttc ttcgggnagn atgtttcagg gcgcangatc ctcaggagtc aaccaccacc 480
acggnataaa aattggagna tacctctggt aatcaactca tcacagctgt ccatggatgg 540
aacaccaccg gcggacatag angttcngat ggtgggtctt ttacttcttg ttnctcaaaa 600
aggncaaagg ggagccccga cgagggaata aa 632

<210> 82
<211> 441
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(441)
<223> n = A,T,C or G

<400> 82
aggtacaagt tccactctgc tacagatgcg tctgtgaaga gcctngngcc atccaactag 60
tgactgaatg atgtcccatc tcttatccga gccagagcac acatcttcca tgctgtccgc 120
tgattgcctc caaatccaga agaccaaata atcctttatc cccaaagtag gctcaaaaca 180
gttggttcag gcattccggg gatctgcacc cctcttaaat cccaggtaaa tcacaagcag 240
gggataaagc cccagcgaat ggcaaaactg gctccccttg taaggagctg ctgttagtcc 300
tctgcttggc cctctttgcn tcagcttcac catggncgaa ccgggccgct ctagnaacta 360
gtggtatccc ccgggcctgc aggcaattcg atatcaaggc ttatcggata cncgtcgnac 420
ctcgaggggg ggccccggta c 441

<210> 83
<211> 482
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(482)
<223> n = A,T,C or G

<400> 83
gnggtggcgg ccgcaaagaa aaatgacaaa gaggcagcag gagagggccc agccctgtgt 60
gaggaccccc cagatcagaa aacctcaccc agnggcaaac ctgccacact caagatctgc 120
tcttggaatg tggatgggct tcgagcctgg attaagaaga aaggattaga ttgggtaaag 180
gaagaagccc cagatatact gtgccttcaa gagtaccaaa tgttcagaga acaaactacc 240
agctgaactt cagggagctg cctggactct ctcatcaatt actgggtcag ctcccttcgg 300
acaagggaag ggtacnctcg gccgctctta gaaacntagn tggatnnccc ccgggctgcc 360
agggaattcg atatcaaagn cttatccgat accgtccgac ctcggagggg ggggccccgg 420
ntacccagct ttttgntccc tttagtgagg gtttaattgc gccgcctttg gcgtaaatca 480
tg 482

<210> 84
<211> 205
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(205)
<223> n = A,T,C or G

<400> 84
ccgggcaggt actacatttt ataacaatag agagtagctg aaaatactac atgctaacac 60
agataatatg atacacaacc tcaggggggа agctggcagg gagcacgtgg cagaggccac 120
aggtttagac taagagnntt tcaatgggac ttgctgaatg gattggatct gctgtttcag 180
ctgcgagcct tctttgatgg acctc 205

<210> 85
<211> 380
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(380)
<223> n = A,T,C or G

<400> 85
gnggggacct gatgctgcac atccacagcg acgtgggctc tgagccccgt gccatctttt 60
attccgcctg cgtggtgctg ggcctacagt ttcttcacga acacaagatc gtctacaggg 120
acctgaagtt ggacaatttg ctcctggaca ccgagggcta cgtcaagatc gcagactttg 180
gcctctgcaa ggcaggggat gggctatggg gactcggacc agncacattc tgtgggaccc 240
cgggagttcc tggcccctga ggttgcttgt acggtacacc gtcgttacct cggnccgctc 300
tagaaactag ttggatcccc cgggctgcaa gggaatttcg attatcaagn cttattcgat 360
nacccgttcc gacctcgagg 380

<210> 86
<211> 687
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(687)
<223> n = A,T,C or G

<400> 86
ccgggcaggt acaggagatc tcatttggga caactaaggn taangggctg gtcatcgagc 60
agtgtaagaa ctccagagct gtaaccattt ttattagagg aggaaataag atgatcattg 120
aggaggcgaa acgatccctt cacgatgctt tgtgtgtcat ccggaacctc atccgcgata 180

atcgtgtggt gtatggcagg aggggctgct gagtatatcc tgtgccctgg cagcttagcn 240
caagtagggn gtgataagtg ccccacctta ggaacagtat tgcccattgt agcagcagtt 300
tgnacgaccg cacgtgngta gggtcatacc ccatggcccc tnnctggaaa aacagtggcg 360
atgnaatccc atcccagtac tatgacccgg aagtcccgag tccagacagn gtgnaaggga 420
ggatggaacc cctgctcttg ggcattcgac tgttttgcac aaggggtgac caaaatgtat 480
atgtaaagca acnagccatg tcatagnaaa ccttgattgg gnaaaaaagc aacaggatat 540
ctcttgcaac acaaatgggt ttaggaatga ttttggaaag attgatgaca ttcgtaagcc 600
ctgggangaa attctggaag aatgaaggac catttganga aaaactatnt tagccaagna 660
tcccaccttc ttggtggatt ttaaagt 687

<210> 87
<211> 433
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(433)
<223> n = A,T,C or G

<400> 87
aggtcagcca tgagtatgct caggcttcag aagaggctcg cctctagtgt cctccgctgt 60
ggcaagaaga aggtctggtt agaccccaat gagaccaatg aaatcgccaa tgccaactcc 120
cgtcagcaga tccggaagct tcatcaaaga tgggctgatc atnccgcaag cctgtagacg 180
gtccattccc gggctcgatg cccggaaaaa caccttggcc cgccggnaag ggcaggccac 240
atgggcatan ggtaagtcgg aagggtacnc tgcccgggcg gcncgntcta gtaactagtg 300
ngatcccccg ggctgcatgg naattcnata ttcaaagctt tattngatac ccgtcggacc 360
ctcgaggggg ggggcccccg gtacccagct ttttgttccc tnttaagtga gggggttaat 420
ttgcgccgct tng 433

<210> 88
<211> 679
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(679)
<223> n = A,T,C or G

<400> 88
aggtacccac cgccatctac tgcttcctac gctgcntggn gccagaccct gagatccctt 60
ctgccttcaa tagcctccaa aggactctca tttattccat ctcacttggt ggggacacag 120
acaccattgc caccatggct ggggccattg ctggtgccta ctatgggatg gatcaggtgc 180
cagagagctg gcagcaaagc tgtgaaggct acgaggagga cagacatcct ggcccaaagc 240
ctgcaccgtg tcttccagaa agtagttgat gaggggctac agctgttggg gggctctngc 300
ccaggtcccc tggngacnca acttacagct tccaatcant aaaccctgcc gccttccttt 360
gagtgttggc tatcccactt ttttccttgc attgtggnag cctgactgag tacctgcccg 420
ggcggccgct ctangaactt agntggatcc cccggggcct gcaggaaatt tcgatatcaa 480
agctttatcg gataccgncn gacctccgag ggggggggcc ccggttaccc agncttttttg 540
ttccctttan tngagggtta antttgcgcn gcttgggcgt aaantcaatg gtcaataagc 600
tgtttttttcc ttgtggntgg aaaattgtta atcccgcttc accaatttcc caccaccana 660
cataacngaa gcccngggg 679

<210> 89
<211> 360
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(360)
<223> n = A,T,C or G

<400> 89
ccgggcaggt cgcaatggtg gatgtgatct ttgctgatgg ggcccagcca gaccagaccc 60
ggattgtggc cctgaatgcc cacaccttcc tgcgtaatgg aggacacttt gtgatttcca 120
ttaaggccaa ctgcattgac tccacagcct cagccgaggc cgtgtttgcc tccgaagtga 180
aaaagatgca acaggagaac atgaagccgc aggagcagtt gacccttgag ccatatgaaa 240
gtagaccatg cccgtggtcg tgggagtgta ccctcggccg ctcttaggaa ctagtgggat 300
cccccgggct gcagggaatt cgatatcaag ccttatcgga tacccgtncg acctcggagg 360

<210> 90
<211> 402
<212> DNA
<213> Homo sapiens

<400> 90
aggtacagta atcctgcctg atagagtagt ctggaatgag aattactttt tgggtgagag 60
agttctccat tttaatgttt ctaaagtttt tcatatgaac ttggcattgg aaaagggagg 120
taaagaaaaa ggacgtttac taaaagcagt gtctactctt ccccttttgtg agtgtttatt 180
catggctaat gaaaaaaaga gaaggactct tgggttttgt gttgccatgt taagcatgga 240
gagggatgct tgacagcatg ctaattgaag ccagagcaag tatgtccttc atcaggtaat 300
caggaactct tcagttgaag ctgaggaact aactgattag ttgttgatca taatataatt 360
ggttacaaag tggaagtgcc agctggctta agtacctgcc cg 402

<210> 91
<211> 466
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(466)
<223> n = A,T,C or G

<400> 91
ccgggcaggt gaaggtgggt ctgaatctag caccatgacg gaactagaga cagccatggg 60
catgatcata gacgtctttt cccgatattc gggcagcgag ggcagcacgc agaccctgac 120
caagggggag ctcaaggttg ctnatgngag aaaggagcta ccantgcttc ctgcagagtg 180
gaaaagacaa ggatngccgt ggataaattg ctcaaggacc ttggaccgcc aatggagatg 240
cccagcgttg gactttcagt tgagttcatt cgtgtttcgt ggtctgcaat cacnntctgc 300
ctgtcacaag taccttcggc ncgctctagt aacctagttg gatcccccgn ggcttgcagg 360
naatttcnnn tattcaagct tattcgatac tcgtctntan ccttcggagg ggggggcccn 420
gttacccant nttttgnttt cccttttaag tggaggggtt aaattt 466

<210> 92
<211> 474
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(474)
<223> n = A,T,C or G

<400> 92
aggtaccttc agagaaaacc aaacagccta aagaatgttt tttgatacaa ccaaaggaaa 60
gaaaagagaa taccaccaag accaggaaaa gaagaaagaa gaaaattact gatgttcttg 120
caaaancaga accaaancca ggggttacct gaatgaccta catganagct gatggaagga 180
ctattatagc agcagacgct tggttgattg aattagaaga actgaacctg ccaggactcc 240

tgtgttcctc aaggccaatg antttgactc acagntcntt tgcctcatac cntaaaaagg 300
aaattttgtc ctaagtnggg ntaaaaaact ttagggaaga aaccacagtt gaggaagaaa 360
atcnggtcct ggatgnctga tcatctgcca gncttcgggc cgctctagga actagtggga 420
tccccccccgg gctgcaaggg aaatttcgaa tantcaagct ttattcggat tccg 474

<210> 93
<211> 436
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(436)
<223> n = A,T,C or G

<400> 93
gcctcggtaa taacttctcg tcacggacct gaatcgttct tgtcctgctg tatcccatat 60
ttgtaacttt acatatttac caccaacatt tattatnttt gaaccaaatt ccactcctat 120
tgtatgattt gagtcatntt tctganattt tttatntcaa ataancctgn atgaaagtta 180
angcanagat tttgccagtt ccttgcattt ccaataacca agtaaccnta aacaagaaaa 240
tccntaggta tttcgggaca ttggcccgtc tgcgacatac ttggggaggc ggacncttcg 300
gcccgnatct aggaactagt tgggatcccc cgnggcctgc caggtaattc gantatcaag 360
ccttatcgga tacncgtccg tacnctctga gggggggggc ccccggtacn ccaggctttt 420
ggttcccttt tagtgg 436

<210> 94
<211> 513
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(513)
<223> n = A,T,C or G

<400> 94
gctccaccgc ggtggcggcc cgaggtacaa gctatttttt tttttttttt ttttttatgc 60
cttntcttnt actttattnc atattcccac cacggataac gactncttta atttaaacta 120
aaaaccatac agggcttcct gaaagggtgg cataaagaga aagggaaang atcanacnct 180
gcnaggacan gttgggggag tggaataagn gnaatcgcnt tgacttgggc tnttggaagt 240
tgcttgggcn ggcttggaag cttgcagcnt ggtanggcca ttcgggattg gnaacttgga 300
aaacccgtta gaagccctgg gccaccaaaa cnttggnttt ggcaanngnt natttttngg 360
ggcnccgggt accctttccc ggggncgggg nccgnctttt tangaaacnt aaggntggga 420
atcccccccc cggggccttg ncaagggaaa nttccggant aatccaaagg cctttaattc 480
gnaatncccc gntgccgaac ccttcagaag ggg 513

<210> 95
<211> 516
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(516)
<223> n = A,T,C or G

<400> 95
ttagggcgaa ttggagctcc ccgcggtggc ggccgcccgg gcaggtacaa gctntntttt 60
ttttttttnt tttttnttn tttttnaang aataggntag tttattttga gagagaggaa 120
gacatnattt gggttctgta aacatnagtc actttattat gcctctgnct ggctgaaaaa 180
caccagctnc tnntgacttn caagggccgg ntgcagagag tgctgcctgc caggtgtgag 240

gtttccagnt aaaagtttna gcagggacac catttgctgg atgtgtttaa gaataaaatt 300
gcttcntaaa atgngataaa taggttacta tacacctttg gtcaatatag ntaaagcacc 360
agcaattaaa atacacccgt cccggccggg gtgaaagtgg nttacgcacc ttnggccgct 420
ntaaaaacta gggggatncc ccccgggctt ggngggaatt tccgaatatt caaagcctta 480
ttcnaatacc ccgtccnacc cttnnagggg gggggg 516

<210> 96
<211> 627
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(627)
<223> n = A,T,C or G

<400> 96
nccgggcagg tacagaatat tccaacatgt ctcatatgca aacaaagcat gtctgtgtcc 60
aaagaatata acctaagacg ccactatcaa accaatcaca gcaagcatta tgaccagtat 120
acggaaanga atgcgtgacg agaancttca cgagcngaaa aaagggcttc aggaagtntc 180
tnttaggctn gtcagacacc cgagtgtccc gagcaaaaac aagtgtttgc aaacccaagt 240
ccaacccaga aattcccccg tgcangtctg ntagaggacc tagctggnga acttatggga 300
agaagttacc nttgaaaaaa tcaggtcttt ttgttggcaa tattcttatt cgccaantng 360
attggagaat cacgggatat taaaataaat acccnccccc annttgggcc atatttcatc 420
ccgtggntgt cggatgaana aatttttnga tnntggttcc naaaagaact tttttgggac 480
aacggttggc cccatngacg ggttaccttt tnggcccgna tttaagaacc taagatggga 540
atnccccccc ggncttnnan ggaaatttct gaatattcaa atntttnntc gaataacccg 600
gtcngaccct tcnaaggggg ggggccc 627

<210> 97
<211> 581
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(581)
<223> n = A,T,C or G

<400> 97
aggtacattc cttaagcccc agcctctcaa actacagtca accgccccgg tcaccagcaa 60
attctcattg tatttacacc agtcacaact naagatttnt gcctgatgtg caggaatcac 120
tgattcttac tcctgctgcc ttcacaatcc cactattttc tcanagtact tgaatcacct 180
tgaggccttg aagcaanaac aacacagggt atgtgtgtcg agactcagat tgtgcctata 240
aataatactt tnatggcctc taaaggttgc acagtagnac tttccaacag gtaggnatcc 300
caccaatntt ngacaaggtt tagatcccat gnagccaagn acacncacaa gctggttcac 360
ctntgggttt ggcttccaat ccaacactaa tacacnnttc tgnaggcgct gtttttttat 420
aagaacttgg caagttgagc ccctgcnanc tttttgggca gtngtctccn ngaancctgn 480
caagcctagg ccattnngct cactttanca gggtggatgg agggaccatt gttccntatg 540
gtttnctcac ttccaanntt caccattcaa aaacaaaacc c 581

<210> 98
<211> 459
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(459)
<223> n = A,T,C or G

<400> 98
cgaggtactc gagaacgcgg ccgctatcgg gaagaagaaa tgactgtggt ggaggaagcg 60
gatgatgaca aaaaaaggct gctgcagatt attgacagag atggggaaga ggaagaggaa 120
gaggaggagc cattggatga aagcttcagt gaagaaaatg atcctcacat ttgaaaagga 180
gatcatataa aaaccaagaa ttgctggatt aagtttccaa gacaatccag agaagttcat 240
ggaatccgag ctggacctaa atgaccatca ttcaggagat gcnacgttgg tggccaccca 300
ttgccagacc tgtaccctgc ccgggncggc cgctcttaga acctagtggg atcccccggg 360
gcttgcaagg gaatttcgga tatcaagcct tatcgatacn cgtcgacctc gagggggggg 420
ccccggtacc caagcttttt gttccctttt agtggaggg 459

<210> 99
<211> 593
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(593)
<223> n = A,T,C or G

<400> 99
aggtctgatc cggctcagct ttccaatcag ctgcggaagg agccacgctt tcgggggttg 60
caagatggcg gccaccagtg gaactgatga gccggtttcc ggggagttgg tgtctgtggc 120
acatgcgctt tctctcccag canaagtcnt attggcaacg natcctgaca tttgagatgg 180
cttgggccat gagagcaatg cagcatgctt gaagtctatt acaagcttga tttcatcagt 240
ttgacccaca agtatcctga aaactcacca aagtagattg accaaaattt acttctgaag 300
ttccgggaaa aattttgnag acnccttagc gatagaatgt gtttggaccc annaaanaac 360
tcaagntcag gaaatcagct caaagaagaa agtgggaggc ccattcttgc ttggaaagtt 420
ttaatgggga attgntttga angaactttc aacctaatgg gtncncttgc nccgggnccg 480
ggcccgntct tagaactaag ntggaatccc ccccgggctg ncagggaatt tcggatanca 540
agctttatcg attaccgtcc accttggang ggngggcccc gggtacccaa ctt 593

<210> 100
<211> 341
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(341)
<223> n = A,T,C or G

<400> 100
aggtacaggt tctctgttct tcagggtcat tttcacagct ttaagatgtg tattcatgct 60
gacatccaca cctgtgattg ttccatggac ctgtgttccg ttcttcaatt caatggttac 120
agtttttcat gactcaattt tcatcaaaaa aatctnacgg agcttcattc tagcggcgcc 180
cgtcaccctt tgggtcccga cagcacacaa gaatccttna accgaacact gaccgactgc 240
agtatgaatg gccggaagcg ccacctgccc ggncggccgc tctagaacta gatgggatcc 300
cccgggctgc aggaaattcg atatcaaggc ttatcggata c 341

<210> 101
<211> 580
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(580)
<223> n = A,T,C or G

<400> 101

tagggcgaat tggagctccc cgcggtggcg gccgaggtac tttgtgagac cagatctcca 60
ttttttcca atgggaaatt attgcaagtt cctacatctt gatattgctt tcataattta 120
tactaacata aaataatatt tttcactgtt ttgcaatgtc tttttaattt ctgtattgca 180
gctagaggga agtccaaaga aaacttggat ttgctctttc tgacatctcg gtggttagca 240
attattcctc tgagtgggag ctggaccctg taaaggatgt tctaattctt tctgctctga 300
gacgaatgct atgggctgca gatgacttct tagaggattt gccttttgag caaataggta 360
gatggtttgg tggtgtggga agcttggaag cggtcaggta gttggctact ttctgcttgg 420
atctattaaa tacctggcag ctctctgtct tttgtgggtt gttgccctgt gaatagttct 480
gctttttaac ccactccctg gatgcatttt tnccttcttg catttccctc ttttcctgga 540
agttcatact aanagaatct gcactaatgg ttttcccttt 580

<210> 102
<211> 419
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(419)
<223> n = A,T,C or G

<400> 102
aggtacaaga tccactctgc tacagatgcg tctgtgaaga gccttgtgcc atccaactag 60
tgactgaatg atgtcccatc tcttatccga gccagagcac acatnttcca tgctgtccgc 120
tgattgcctc caaatccaan aatgaccnta ntaatctntt tatccccaaa gtaggctcca 180
anaacagtat ggttcaggca ttcacgggna tctgcacccc tcttaaatnc caggttaaat 240
tcacaagagg gtataaagcc ccagncngaa tggcaaactg gctccccttg gaagagcntg 300
ctgttagttc tcntgcttgg cctcttttng cttcagcttc accattggcn tactggccgc 360
ntnttagtaa ctagtgggat ccccccgggc ttgcagggaa tttcnattat caangcttt 419

<210> 103
<211> 145
<212> DNA
<213> Homo sapiens

<400> 103
tatagggcga attggagctc cccgcggtgg cggccgaggt caggagtcta aactcacagg 60
catcaagcga atgctatgca cccagagagg ctactttaac aaaatttttg taaatatttt 120
ccgatgtaaa ataaaatgtg ttccc 145

<210> 104
<211> 414
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(414)
<223> n = A,T,C or G

<400> 104
ggcgaattgg agctccccgc ggtggcggcc gcccgggcag gtacctttat tctgtcagtg 60
agcaggtatt tttttatgac catttcctgc aattggcgaa aagtctcctt tcaattctac 120
tccatagagt tgcactgctg aactggaaag ataaccctaa agttgctgtc tggtgtgagc 180
tgcacatcat acagtaagtt tctgctcatt tttctttctc atataatgaa tcaataagtn 240
ttcatcataa anggaatgca ccaaggtgaa ctgtgggttc cggctgctgn tgcatggtta 300
gttcgcatcc actgtaacag cgcctggcgg tcggcaggag ccacagtgcg aagcggccgc 360
agcatcactg cctgcctcgc agtgggaaat tttaccttgc tggagcaagc acct 414

<210> 105
<211> 530

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(530)
<223> n = A,T,C or G

<400> 105
cttagggcga attggagctc cccgcggtgg cggccgaggt acaagctttt tttttttttt 60
tttttttttt ttttnggttt tttttttttt tttttttttt ttnanaaggc tgtaaagctt 120
tattgggaga attttaatga acaaatttcc aacataggag cagcctgcat catttcaacg 180
ngccttnttt taacactggg attgcttttc accttnttca ggngttttca cctnctttgg 240
atttggnggg tccatntnct gcccatnagg accattttna cactnacncc cagtntgggg 300
gngaccctgt tcctggctat cancttcagg cttcggccct tgacctgcan atgcnccctn 360
atcctntccc tnctgngcag ctncaggatc ctnacgttga gttgctggtt ncccttnttc 420
agggngtngg ntgggtccac ttnatnactt gaactgctnn ggctngggaa aaacntnngg 480
ggtggncaaa naanaaanna anttttggt tttgnnnnna aatttttnnt 530

<210> 106
<211> 507
<212> DNA
<213> Homo sapiens

<400> 106
cttagggcga attggagctc cccgcggtgg cggccgaggt gtggaactga ggatgcagca 60
ttcaaggttc tatcttggaa gcagagactg tgccctcacc agatgctgaa cctgctgagc 120
accctgatct tccacttcac cttcatcaga actactgggg ctgtggctga gatgtcacat 180
ggcagatagg atcacaaatt tctgttgtat ctggatggag atcagcagga ggatctatgg 240
gtgagaagaa gcacagttac agatggattc tagagcctgc ttgctgacac aggcttgcaa 300
ctgcggactt tataagctta gttttaatc tgctatcagc tagcataata ccataaatgc 360
ataaaaaact aagtattcag tcttacgaga aatgctatct tgacctgacc ctttctccaa 420
ataaattgac aaaatatctc atcgtctagg atgccagaca gaaataccaa gttgcaatgt 480
tttttgttgc ataaagtttt atcctaa 507

<210> 107
<211> 293
<212> DNA
<213> Homo sapiens

<400> 107
ccgcggtggc ggccgaggta ctctgaactt tcaaggaggc cagagcagga aagggaaagg 60
aataaccccc accaccccca acacaagaga ggcacaaatt agagggctgg gcacaggctg 120
tagccctggg tgagggggta agcagcttga cagttgctct gtggtctctg ggatataatt 180
ctgcccaagg ctagaaccac agagaagagt ttgcactctt aagtccagga aggggactac 240
ctggaaggcc tgagaacaaa ggagaaagtt tagcacacta aacacatggc cag 293

<210> 108
<211> 392
<212> DNA
<213> Homo sapiens

<400> 108
tagctccacc gcggtggcgg cccgaggtgt ggaactgagg atgcagcatt caaggttcta 60
tcttggaagc agagactgtg ccctcaccag atgctgaacc tgctgagcac cctgatcttc 120
cacttcacct tcatcagaac tactggggct gtggctgaga tgtcacatgg cagataggat 180
cacaaatttc tgttgtatct ggatggagat cagcaggagg atctatgggt gagaagaagc 240
acagttacag atggattcta gagcctgctt gctgacacag gcttgcaact gcggacttta 300
taagcttagt tttaatctg ctatcagcta gcataatacc ataaatgcat aaaaaactaa 360
gtattcagtc ttacgagaaa tgctatcttg ac 392

<210> 109
<211> 413
<212> DNA
<213> Homo sapiens

<400> 109
ttagggcgaa ttggagctcc ccgcggtggc ggccgaggta ctgatcacta catcatggcc 60
cgggtccttt ttgtgctgat tgtgctgagc cagctcacca ttctcattat ttttagatat 120
cgaggatacc cagagcttaa agaaccttca gggtttataa atctgacctc attttctctt 180
catgtcttga gcaaaataaa catcttctac tattctgtgt tgttgttgac cctgtataca 240
gtgctgggtc catggttttt tggtgaaatc attgatggca aatttggttg ctgcttttcc 300
tttgggatat ttgttaatgg acatttccta caaggcagca taacatttat aattggaatt 360
ctccagctgg cgttttttaa catccccttg atggcttaca tgtgttggag ctt 413

<210> 110
<211> 152
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(152)
<223> n = A,T,C or G

<400> 110
ccgcggnggc ggccgaggta caagcttttt tttttttttt tttttttttt ttaccattgg 60
atgattttta attagatgta aaggctggca tattanccat aaatttcatt tcangagcat 120
aangggngta acnccangcn ttatgaaaag gc 152

<210> 111
<211> 286
<212> DNA
<213> Homo sapiens

<400> 111
aggtactgat cagatcaagg acctcccccca cccttctcac actctgccca cttccgccct 60
ttgcttatca gacccttagc cagtgactca ttccagaacc agaaccttgg tgaaatctca 120
accgacacca gagatcggtg tcttcagtcc tagactgatg gagaaaatcc agaatatata 180
ctagaagctc caaatgctct gggtttcagc tcctctgtgc tgtggacact gactttggct 240
cagaactccg atttagtacc tgcccgggcg gccgctctag aactag 286

<210> 112
<211> 530
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(530)
<223> n = A,T,C or G

<400> 112
gggcnattgg agctccccgc ggtggcggcc gaggtacaag cttttttttt tttttttttt 60
tttttttttt tttttttttt tttttttttt tttttttttg ggncccccaa aaccatcctt 120
tnttggagtn ttagttcang gganctgcnt gaaaaacntt tcngggggaa tttncanttt 180
ccagnttaaa naacttgccc cccccataac canttttttga aagtcanttn nttaaanggn 240
ttaaanoctt ttgtngggcn tganggcang ggacaaagct ncaanttggc ctgnncnttt 300
ggaagctgng gcaggnggnc cntttgnncc cagganoctg anaccagccn gggcaanata 360
aaaaatccnt ntnaanaaaa aaaantttta nccnggngng ctgngngctn tatncccann 420
tncangggggg gnggattgnt taggcctggg ngnttgggga tncaatgagn tgnnattgng 480
ccaccanant ncagcctggg caatanagga aggactgttt taaaaaaaaa 530

<210> 113
<211> 478
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(478)
<223> n = A,T,C or G

<400> 113
tgggcgaatt ggagctcccc gcggtggcgg ccggggaagg tcagcgccgt aatggcgttc 60
ttggcgtcgg gaccctacct gacccatcag caaaaggtgt tgcggcttta taagcgggcg 120
ctacgccacc tngaagtcgt gggtgcgtcc agaagagaca aataccgata cttttgcttg 180
tttgaatgag agcccggttt ggaaagaaca taagaatgaa aaggatatgg ccgaaggcca 240
cccannttgc tgaaggaggc ccgaggaaag aattcttggt cctnggcccg ctctagaact 300
agtgggatcc ccngggcttg canggaaatt cgatatcaaa gctttatcga taccgtccga 360
cctcaagggg ggggccccgg tacccagctt tttgttccct ttagtggagg gtttnaattg 420
cgccgcttgg cgtaatcatg ggtantaagc ntgtttcctg tggtgaaaat tgtttatc 478

<210> 114
<211> 791
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(791)
<223> n = A,T,C or G

<400> 114
tagggcgaat tgggagctcc ccgcggtggg cggccgaaga cactgcgact ccggagacag 60
gccccaaata tccctcggga aaggaagcgg ctcccnggaa gaaaacaang cttngaacca 120
ctatgctttc atcaaagttt ccggctganc cactggagtc ctggccntgg aaagaaagaa 180
taggaaagac caaccaccac cactttgtgg ttcaattggn gggatggttn aaagcccacc 240
aagcccccaa gaattaaaac canggcttgt ggaaagaaag cctggtattg acatttggat 300
tgtgggccca agggtcaaac cacccctgga ttccggccct ggatggggaa gaagaaagga 360
aagggcatta tggttccgac tgggcttcct ggattaaccg aatggctttg gggaatggtt 420
ggcccaacaa aaaatttggg gggatcaatc ttaaaacctg gaggtcccag gctggcccta 480
aatttctgga aataatataa taatatatta ntcttttttc acccttcngg gcccggcttc 540
ttaagaaact aggtggggga tccccccccgg gggccttgca aggggaaatt ttcggaatta 600
tcaaaaggct ttattcggat taccccggtc cggaccttcg gangggggggg ggggcccccc 660
gggtacccca agcctttttt tggtttcccn ttttaagtgg angggggggtt ttaaaatttg 720
gcgccgcttt gggccggtta aatccaatng gggncataag gccttggttt cccttggtgg 780
tgggaaaaat t 791

<210> 115
<211> 555
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(555)
<223> n = A,T,C or G

<400> 115
gggcnaattg gagctccccg cggtggcggc cgcccgggca ggtacagggc ttctcatcat 60
acacaaaccc tccacagccc acggctccaa cccacagcac ctcctgcagt cctttatgc 120
ttcttgtttc ttctccatca ataatatgtc agtcaactgc ttgtcagaga cacttagctg 180

ctgacaggtc ctcataacct gactcangta aactgccaag agatgcttgc actgcactcc 240
tcacgttagt cctaagttat atttcttcct tgccttcaga aagctgtcac agcaatggtt 300
aacattcctt gaggcactag gctgtgaagt gcttctcata gattatctca ctgaaatctg 360
acagctccca ggatgctgtc actcttccgt agcactgaga atgcaaatgc agggacatga 420
acagtaatga caagaagcca aacatgtggt atgttttact ggaacttcca aggaccctgg 480
taaacaccgc cttccctggg tgatgagatt aaggtgatgg gctgtccgat caactaggtc 540
caaggcctgg gtggc 555

<210> 116
<211> 502
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G

<400> 116
ccgcggtggc ggccgcccgg gcaggtaccc agagttgcga ggagtttttt aactgattta 60
gccaggtggc aatcatgagt gaatggatga agaaaggctc cttagaatgg caagattaca 120
tttacaaaga ggtccgagtg acagccagtg agaagaatga gtataaagga tgggttttaa 180
ctacagaccc cagtctcttg ncaatattgn ccttgtgaac ttncttgaag atggcagcat 240
gtctgtgacc ggaattatgg gacatgctgt gcagactgtt gaaactatga atgaagggga 300
ccatagagtg agggagaagc tgatgcattt gttcacgtct ggagactgca aagcatacag 360
cccagaggat ctggaagaga gaaagaacag cctaaagaaa tggcttgaga agaaccacat 420
ccccatcact gaacagggag acgctccaag gactctntgt gtggctgggg tcctgactat 480
agacccacca tatggtccag aa 502

<210> 117
<211> 437
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(437)
<223> n = A,T,C or G

<400> 117
ctatagggcg aattggagct ccccgcggtg gcggccgccn ggccnggtac tantttaatt 60
ctganctctc tctagaaggc aggaaaccac atcccacact cctatgcaat tngntatttt 120
ggtattgnaa agtaaatgaa taanaagggg tggaggcata aagaaaatct attttctggc 180
tgggcagggt ggntcacgct tgtnatcccg actttgggag gccaaggcgg ntggntcacg 240
aggtcaggag attgaggatc atnctggcca acatggagaa acccngtttn tactaaaaat 300
acaaaaatta tgcccggnct tggngacatg cgccngtagt cctagctact cgngaggctg 360
aggcagggga atcacttnna ctgggaggtg gaggttgctn tgagccaaga ncgcnccatt 420
gcactccagc ctgggca 437

<210> 118
<211> 373
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(373)
<223> n = A,T,C or G

<400> 118
cttagggcga attggagctc cccgcggtgg cggccgcccg ggcaggtact agtntaattc 60

tgatctctct ctananggca gaaaccacat cccacactcc tatgcaattt gttatttngg 120
tnttgnaaag taaatgaata anaaggggtg gaggcatana gaanatctag tttctggctg 180
ggcagggtgg ntcacgcttg naatnccgcn ctttgngagg ccaaggcggg tggatcacga 240
ggtcatgaga ttgaggatca tcctggccaa catggtgaaa ccccgtttct actaaaaata 300
caaaaattag ncgggcttgg tgacntgcgc ctgtagtcct acctactcnn gaggctgagg 360
caggggaatc act 373

<210> 119
<211> 457
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(457)
<223> n = A,T,C or G

<400> 119
ctatagggcg aattggagct ccccgcggtg gcggccgccc gggcaggtac ccagagttgc 60
gaggagtttt ttaactgatt tagccaggtg gcaatcatga gtgaatggat gaagaaaggc 120
tccttanaat ggcaagatta catttacaaa gaggtccgag tgacagccag tgagaagaat 180
gagtntaaag gatgggtttt aactacagac ccagtctctg ccaatattgt ccttgtgaac 240
ttccttgaag atggcagcat gtctgtgacc ggaattatgg gacatgctgt gcagactgtt 300
gaaactatga atgaagggga ccatagagtg agggagaagc tgatgcattt gttcacgtct 360
ggagactgca aagcatacag cccagaggat ctggaagaga gaaagaacag cctaaagaaa 420
tggcttgaga agaaccacat ccccatcact gaacagg 457

<210> 120
<211> 296
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(296)
<223> n = A,T,C or G

<400> 120
ctactatagg gcgaattgga gctcnccgcg gtggcggccg aggtactcat ccaggttgta 60
ggccatggtg gcgtgttcct gctcgttcag naggtgccga ncctgctnct ccancagcac 120
tngtgtctgg ttccccaggc tgctcanggt canctgggag ccggctgggc ccttgtaaaa 180
acctggcttg tttattcctt tttgntgtga gatcgccaag aaacctgtgg ggaaagacac 240
acatntccag ttgtgcattt gagcagatna aatgggcgtg gncaagggac agggtg 296

<210> 121
<211> 267
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(267)
<223> n = A,T,C or G

<400> 121
ccgcggtggc ggccgcccgg gcaggtacaa gcttttnttt tttttttttt tttttttttt 60
tnaagaggaa aacccggtaa tgatgncggg gttgaggnat aggaggagaa tgggggatca 120
gccgacacca ganatcgntn tnttcagtnc taaacctgat ggaaaaaaat tncanaantt 180
atttacttag natctccaaa atgctcttgg gnttcaagct cctctntnct ggggacactt 240
gacttttngg ctnaaaaaac tccctat 267

<210> 122
<211> 231
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(231)
<223> n = A,T,C or G

<400> 122
ccgcggtggc ggccgnggta ctctgaactt tcaaggaggc canancagga aagggaaagg 60
aataaccccc accaccccca acacaagaga ggcacaaatt agagggctgg gcacaggctg 120
tagccctggg tgagggggta agcagcttga cagttgctct gtggtctctg ggatataatt 180
ctgcccaagg ctagaaccac agagaagagt ttgcactntt aagtccagga a 231

<210> 123
<211> 703
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(703)
<223> n = A,T,C or G

<400> 123
cgcttggagc tccccgcggt ggcggccgag gtacaagctg tttttttttt tntttttttt 60
ttttttccgg ggaaaagata tatatatata tntccagaat taggcagctg gactcagttt 120
agatgatccc aattttgtng gcaacatcca aagcatngta atcagganco agtcgaacat 180
atgcctttnt ttttccatca ggcngaatna gggggggntgn ccttgnccca tcattgcann 240
cngtttttn anagcctgtt aaatntgggg ctngtngnnt ttnaccatnc cacaaaanaa 300
acncaanggg gggngggngg gtttttttntt tttttttnngg ggcaaccnnt aaaggggncn 360
cngcgaacnn nttttttttt atcncnnggg gggccnaanc tttttttttt tcggggggnc 420
cnnttttttn ggnganntt ttttcggggn tntntttcna aaganaacan aattntttnn 480
cccnccnntn ttaaaaaaaa ntannncccc ccccccngng ggtgngggan ntannttct 540
tatacggttt ttttntcccc cccncncccn cnnnggggg gggggccccc ccccncnnnt 600
ttttttttccc cttttttggg gggggngnta aaaacnnncc gntgngggga nnaaaaanaa 660
aaantanact ttnttttctc tntgnnnana aaaaatcccc ccc 703

<210> 124
<211> 419
<212> DNA
<213> Homo sapiens

<400> 124
cttagggcga attggagctc cccgcggtgg cggccgagct gcagatgatc agcatcagga 60
ccgatttctt ctcactgtgg ttcttcctaa gttttaccca cttaggacaa atttctttta 120
ggtatgagga aagactgtga gtcaaatcat tggccttgag gaaacaggag tctggcaggt 180
tcagttcttc taattcaatc accaagcgtc tgctgctata atagtccttc atcagcttct 240
gtaggtcttc aggtaaccct ggttttggtt ctgattttgc aagaacatca gtaattttct 300
tctttcttct tttcctggtc ttggtggtat tctcttttct ttcctttggt tgtatcaaaa 360
aacattcttt aggctgtttg gttttctctg aaggtacctc ggccgctcta gaactagtg 419

<210> 125
<211> 632
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(632)
<223> n = A,T,C or G

<400> 125
ccgcggtggc ggccgcccgg gcaggtactg gatttccaga aagtgaaact aaaagagcgt 60
caggaagcag agaaaatgtt caagggcaaa cggggtgcac agcttgcaaa ggatattgcc 120
aggagaagca aaacttttaa tccaggtgct ggtttgccaa ctgacaaaaa gaaaggtggg 180
ccatctccag gggatgtaga agcaatcaag aatgccatag caaatgcttc aactctggct 240
gaagtggaga ggctgaaggg gttgctgcag tctggtcaga tccctggcag agaacgcana 300
tcagggccca ctnatgattg tgaaaaaaan aattnaaaaa aaacacactn tncaaaaccg 360
gntcnttgac cantngggca attttttttaa naaatagggc cctnttggaa caaannnttg 420
cttttttcga acatggggat anataaccct ngtttttntn tttnncaaaa gggggaattt 480
natcancctt gttggaaaag gccnaaaaaa ccncnttntt nttnattttt ngaaaaaana 540
ngntttgaaa ttaaaantnt cntttnnccn ccaaanataa aaaatanncc ctnccttnnn 600
ttntnnaaaa aaaaaaaaaa aaaaaaaaaa aa 632

<210> 126
<211> 352
<212> DNA
<213> Homo sapiens

<400> 126
ccgcggtggc ggccgaggta ctcatccagg tagtaggcca tggtggcgtg ttcctgctcg 60
ttcagcaggt gccgagcctg ctcctccagc agcactcgtg tctggttccc caggctgctc 120
agggtcacct gggagccggc tgggcccttg taaaatcctg gcttgtttat tccttctgtt 180
gtgagatcgc caagaaacct gtggggaaag acacacatct ccagttgtgc atttgagcag 240
atcaaatggg cgtgggcaag ggacagggtg acttggggca ggaagagcaa agcttcaaga 300
gaaccatgca tcgtggcctc cactcgctgc cagttcaagt ctgggggcta ct 352

<210> 127
<211> 251
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(251)
<223> n = A,T,C or G

<400> 127
ccgcggtggc ggccgaggta ctgctttcat ccgatttaga tgcacttcct attgatgatg 60
aagaaggccc accaccaggc ccattttgca cactggcaac tgcattcctc ggaggggggt 120
cttcgagcgg ccgcccgggc aggtacaagc tttnnttttt ttttttttntt tttttntntt 180
tttttttagg attntaacnc tttattaana ggncacaagc cacaggactt taaagggcat 240
gaaatttatt g 251

<210> 128
<211> 117
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(117)
<223> n = A,T,C or G

<400> 128
ncgagggtac atttgggata aggggtgggg agggccacaa acttgggctc catagacttg 60
ggcccgtctg tccatcttna cttgggacca ctttnccctt tcaagcaggg agggacc 117

<210> 129

<211> 365
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(365)
<223> n = A,T,C or G

<400> 129
aacaganaga atattaatnt ttatcatttt nttgatcaca ttgtccaagn gnggaacatn 60
caaaaagtat tcaggatact catacnacat tcccacgttg ttcactaana ngccnatttc 120
aagaccagcc aagcctgttt taattttatc ataaatatct tctgatgcaa agccaacanc 180
aatggttntt gtctccactt tgaatttttc tttnatttca ctggaaaacc tggtcaagng 240
tantncttcc gatctgcttg ataaagggac aacccttcat tccatgcctt tgctaacntc 300
tttctancat aatgattttc caccttgccc ngnngccggn cngttcnact aaggnggggg 360
ggccc 365

<210> 130
<211> 191
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(191)
<223> n = A,T,C or G

<400> 130
aggtacaaaa agcgttaacc caaaattaac ccaaactggt aaattggtaa gtngttcttc 60
aatcaaaatt ttaaaagacc atcaaagcca cctttaggaa aaggagaana caagtcacag 120
actgtagaag cgtntgcagt cacacaaaag ggtcctnaaa ccctttaagg aaaatgtgta 180
ttgtgaaaaa c 191

<210> 131
<211> 718
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(718)
<223> n = A,T,C or G

<400> 131
ttnttnnacc ccccccgttt aagatnnacc nnaaccttnc cacctcatta aggggtnccg 60
aaaaatntgg agaaaaaact ncccacaccg ncngtggttg tgtccgagac cnccgacacn 120
ccgggngncc agggggttga gcccnccatt acnaattttg tccaaaatta agnccaagng 180
cgaagctntt gatcttggcc aaaanaattg caaananaaa attgggtntt gggngacatt 240
gggngnaaac caaaaaggtc canccttttgn tnataaaggg caatnacagg ggaanaataa 300
ggcaaaacct tgaaggagca anaagnnggg tatttccttt ggggcgaana aaaaggagaa 360
tnacccgcnc ntnaaacctt tngggnaaga aggcnccaaa antttaangg ggnnacaata 420
aagaaaccnt tttttctccg ggnaaaaacc ccccggantt nnttgggngt tatttantan 480
ccnttnttta ttgggagaaa cccntttccc aaaggggggg ngaaggcgcc cnaagggaga 540
aanaagcntt tttttttgg gggaaaaaaa cccaanattt aaatttnggc nttncaaaat 600
ttggggaccc ctttcnccca aaggnnaaag gcttttttttt tttngggncc cccaaaggga 660
gggnanttan aaancccncc ccttttncnc ggggngggnn ncccngcccg ggngnccc 718

<210> 132
<211> 815
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(815)
<223> n = A,T,C or G

<400> 132
ttttttttntt ggccccnccc gttttaanat taaccggcaa acctttccac ctnattaagg 60
ggggnccgna aaatatggng taaagnactn cacaaccncc ggcggngatn gagaccgnga 120
caccgcagng gtnaccaatc tntnatntnt gtnccatngg ngacatntna accacacaat 180
ggggccantt gtntngcctg ggtntgccaa tnantcttaa gcgccacggg ggggccgagg 240
ggtngcctct nttaattaat tgaagaaccc gccccaattg tngcntngcc gccaattatt 300
ggggcctttg gggtggccaa gaagaagaag anttnccaan aaaaaaccca canggggaan 360
aaaaanacaa nagggggggc aaccaagggg ccntttgggg aaaggngaaa acnaatttgg 420
ggaaagaaan aagagggggc ctttaataaa naanaagaat taagggggaa aaattcntta 480
aanttnttnt tnttnttgcc gcctttnaaa aaaagaattn gggcaaattg cccattgggg 540
nccnttnggg ggggaaattt naaggggncc caaattattt gtttttttnc ccccggcttn 600
ggggggganna aaaaanccca aanccnaaag aaaccctttt nccnaaagga nnaagggggg 660
gnttgaaata aaccccaaaa aaattttaaa gggnggaaag ggcnttcttt nttcttcccc 720
aaatttgttt gnttgcccaa aaaaantttt cccgggggtt tnaaaggagg ggaacccaan 780
nttggggaat ttgggaggga ccccaaancc ctttt 815

<210> 133
<211> 696
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(696)
<223> n = A,T,C or G

<400> 133
tttttttgga ccgcnccccnt tttnaaatta accgncacct tcaaccttat tagggggggc 60
cggaaaatnt gggaaaggac ttcnccacnc cgncggggtg gngaccgaga ccaccganag 120
ggnttacctt tnaccaaccg gttaaaaggn natttntctt aagnccctca ttgngggtcc 180
canttgtntc ttaatcanac aagccattgc aaccttgctc ttcagggggg gaattttttt 240
naanantttt tccaacccan ttnttttnaa taaaaggggn naaaanaaca attgngaagg 300
ccaattgttc cggctnttaa atcantcttc aactttgggg gnttgggctt ctcttctctc 360
ttaaattggg gaaacccncc ttgaaattta agaaanaaan aaatttaanc cctttttttaa 420
ancccgccgc cccccnttgga acccnaagaa agaaattgnt tgtttgcccc ccaattttna 480
aaaacnantt tggcttcnaa cgnnttnggg ggggcttctt tnaaagggcn tttaaanaaa 540
naaagggggn cccttctttn ttctttnttc tttncccntt ctttaaancc cnttnggggg 600
aacaaacaan aacnaaattt aaannaattt gggggcccc ccnaaggggg ggntngaaaa 660
naaacccncc caaagaaagg gggttnaaat tttttt 696

<210> 134
<211> 199
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(199)
<223> n = A,T,C or G

<400> 134
aggtacattt tctctgctgc aacccaggat ttgggcttat gatcaggagg aatggtgatt 60
ccatattccc agcctttctc atccaccact cgatttatgt cataagacca tgcatcatnt 120
tcccattccc aacctggagg acaagtcaac tcgctgggcg atgctgcttt atcgccgttc 180

gcatccgtgt aggtgtcct 199

<210> 135
<211> 609
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(609)
<223> n = A,T,C or G

<400> 135
ncnttttttt tttttttgaa ccccctcccg ttancannac ngncacttgc nacattnatn 60
taagggggc acngtanana tatgggntta aacccttacc ccacnnccgt nggngctngg 120
ngaccgtgaa cnccgtcacn ccgtgtgnac cacgaggnta anccgtgncc acaatggggg 180
atcctnattc ttgggcnctt gtanaatggc aaagattnaa gcgatcatng gnattggagg 240
gtgttntcag ccantggaag aatttaacaa ccctnaagat ttaacttngg ggngcgacaa 300
ttttaanaag gngcgnggcg ttngagttaa agtngcgtng gattngaacc tccttaattg 360
gantggnggg ggaanaaaaa gcctaatang gcttggggn ggatccttta aagccgggcg 420
ggccccaant tctttttntt ttaaaaaaat tccctttga aaagggaaag gnaccggcca 480
aataataggg ggccnccctt ttaatttcaa naaattttcc aaagcccgtt ttgggccgn 540
gnaccacctc ccggggccct tttccgaant ttaaagaaag ntggggggan gncnnaaatt 600
ggggggcnc 609

<210> 136
<211> 621
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(621)
<223> n = A,T,C or G

<400> 136
gggggggctg gggnccggga acnccgttat caaaacaacc aatnggntng gatccaacct 60
ttgtggggac catgagncgt gtttggactc ntacctaaaa attaacattg ggtttggcat 120
tagtncctca aggaaaagag ggtggccaat cgtttttatt ttttaggggg ggttaataaa 180
aaccaacgag gaccgtgagn gggttttaat aaggagaatt atattggacc acngnaatgg 240
tttctccacc ttgtctatcc aaccattgta gttgtanttn ttgttgaaaa aacccncctt 300
gtaatancan ccttgtttaa atangtggaa ggggccaaat tnggaagcnc cattgggant 360
nggaatcatt ngnaggcggt atttttcggc cnaacccaag gtttangacc acgangggggg 420
gggtttaaac aaaattggaa acaagttngg gnaaacccct ttttagggcc ctttgggngg 480
gaataattgg ggataaaata attcngggct cggaaaggca aaaanttaaa ntttttttggg 540
gggggggggg cccnttaggg gggtccttca aaaaaaatta atttggggat tgggcccaaa 600
gggggttcnt ttcccaaaag g 621

<210> 137
<211> 889
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(889)
<223> n = A,T,C or G

<400> 137
ggaccggaaa aatgtggaga nanggcctta cacaaccacc gcaccgngnt ggngaccgng 60
acnccgaagn gngtnaggnc naccattcca aacctctncn aaggggattc tgggtngana 120

ccaaaccccg gggaccacca agggncatng ggctcntggg gacattgcca caatttgaag 180
gagtgtntgg ggnaaaaagg cccccattac gccataagcn agggggccaa tngggggga 240
accacatntt ggnttaggac ctccaacggt naattgggga taaaaaggtt ccaacagggn 300
ggcttatccc caacccttc caaattattn ggggntnat tgggggcna ncccaataat 360
aanaataaat tcccggngnt taanaattgc cnttaccgcc naagaaagng nccnaataac 420
agggggaatt gtttttnttg gggggntttg cccaccaaag aanccattag cctttggggg 480
ggggctcttn ttngggggga anaaaaaaag aagaggggtt tcccnccnan ggggnccgtt 540
tnccaccntt ntttgggggg nggaaggcca aaggcttccc ccttnggtnc cnaagggaaa 600
aanccntttg ggtccccaan gggtatttgg gagganncсn accccgggaa aaaggtgggc 660
ttttccccaa aggggggcn aaacaaaggg nagaaaaaaa ttngggngna ancccgccct 720
ttntttggtg ggcccnccct tttttttgtt ttggccnaaa ccccaaaggg gggggnnccc 780
ngcccgccca nccggggggg gagcccaccc cnggggggccc ctttttnccc ttttgaaaag 840
gggngnaaaa aaaacccccct tttnaaangg ggaattaggg gggggaaa 889

<210> 138
<211> 474
<212> DNA
<213> Homo sapiens

<400> 138
ccgcggtggc ggccgcccgg gcaggtctgg aatataatca gtggttcaca aaactgtcct 60
ctaaggatct aaaactgtcc actgatgtct gtgaacagat cttgagggtg gtgagtaggt 120
ccaatcgact ggaagaattg gtgttggaaa atgctggact tagaacagat tttgcacaaa 180
aactggccag tgctctagca cataatccca actcaggact ccacacaatt aaccttgctg 240
gcaacccact ggaggataga ggtgtgtcct ctttaagtat tcaatttgcc aaactcccaa 300
agggcttaaa gcacttaaat ttatctaaaa cctcattatc acctaaaggg gtgaacagcc 360
tttctcagtc actcagtgcc aatccattga ccgcctctac ccttgtccac ctcgacctct 420
cagggaacgt ccttcgtgga gatgacctct cacacatgta taattttttg gccc 474

<210> 139
<211> 251
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(251)
<223> n = A,T,C or G

<400> 139
ccccgcggtg gcggccggct tccagtngcc cccggggtag cggttctcgt tctgatagac 60
ttcatcagtg aactccgtgt gacctgcatc tgnctcagtc agcaagcttc tttcaggatc 120
aactatccac tctccttncc attcccagcc ttttggaggc agaaaaaatt ccctcttgag 180
ttttattttt cccgtgacat cagaaaaact tatgacgtcc tactaatcca gaagtacctg 240
cccgggccgg c 251

<210> 140
<211> 60
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(60)
<223> n = A,T,C or G

<400> 140
acngttngng gactgggnaa aaaccccttg gccgtttacc caacttaaat ccgccnttgc 60

<210> 141

<211> 233
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(233)
<223> n = A,T,C or G

<400> 141
cgggcaggta cttctggatt agtaggacgt cataagtttt ctgatgtcac gggaaaaata 60
aaaactcaag aggggaattt ttttttgcct ccaaaaggct ggggaatggg aagggagagt 120
ggatagttga tccttgaaag aagcttgctg actgaggcag atgcaggtca caccggagtt 180
cactgatgaa gtctatcaga acgagagccg ntaccccggg ggcgactgga agc 233

<210> 142
<211> 578
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(578)
<223> n = A,T,C or G

<400> 142
tncttagggc gaattggagc tccccgcggt ggcggccgag gtaccttaag acaaaagtta 60
tgaatgacac aagaattcat ggctaagcaa aaataaaacc tccagtgtga aaagagagga 120
agcagaagca acaaggtttc ccatgaaggt ttgtagttta agacattccc ggactgagtt 180
cttgcccctt gaaaagaggc aagaagatgg aaactcattg tgcaccctat gtgcagcagg 240
ttttctggac accacagctt catgaaactc tgtgtctgtg aacatcccaa gaggtgaaat 300
caggaatcat aaataagacc ttgtgccttc aaggagatga ttgtcatttc ctcaagtttt 360
tgaggcagag gctttgagga ttctgcactc tcttttcttg tagacatgca atcacggaag 420
tatggattca aaattgcttt ctgttccata gaaaggaatt aggagttatg tttagggctc 480
ttcttccatg ttaaaatccc tatgccttnc taagaaaaaa gcttaagttt aaaatctcca 540
tgaaaacaat atttatgctt ganaaccaaa agtgaaat 578

<210> 143
<211> 228
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(228)
<223> n = A,T,C or G

<400> 143
cgggcaggta cttctggatt agtaggacgt cataagtttt ctgatgtcac gggaaaaata 60
aaactcaaga gggaattttt ttntgnctcc aaaaaggctg ggaatgggaa ggagagtgga 120
tagttgatcc tgaaagaagc ttgctgactg aggcagatgc aggtcacacg gagttnactg 180
atgaagtcta tcagaacgag agccgctacc ccgggggcga ctggaagc 228

<210> 144
<211> 368
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(368)

<223> n = A,T,C or G

<400> 144
tacttagggc gaattggagc tccccgcggt ggcggccgcc cgggcagggt gatcgctgtg 60
gcggcgtcac agataagccc ccaccttgtt agaggctggg accattaatt cagacttntg 120
acaacccctt catttattgc tactatgcaa atatgaggaa agaaacattt tttagaagga 180
aagaacaact ctaccaacta attccgtctc aggatttctt gaagctcacc tgactatgct 240
ttaatctatc taggagcccc agaaagctac ttcacaccca tcaggcaagc ttagaatcat 300
tgaaagctat acctttactc tccctcttca tagctccttt ttttgtacct cggccgctct 360
agaactag 368

<210> 145
<211> 787
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(787)
<223> n = A,T,C or G

<400> 145
tttttttttt tttganaact tacccangcc ccangaggcn caccgtccaa aatcttacac 60
cccactttna acnttgaaga aannggggga aaacaccaaa nactaggggn gcttgggcgg 120
tgaaccaccg ngaggnccac ncacacacac atncgtanag ggaatccgga caccgtgctg 180
naattcagat atnatagggg catttngtta ttgaatnact gatacatttn gcncattgnc 240
caagcgccgc ccggggngat ggngcacaat cnctccaacc tttangcttt tatngccttg 300
aggaggaggc ncggggggca accgaaccac nctggggntg aaccnaangg ggnatataac 360
caccgttacn cnccattggg gccncccttc tttttaagaa agaacccaag ggagaaanaa 420
tcaaaccntg ttgtctnntt gtcccctctt ntnttcttct tatnnattgg nggaacccnc 480
ctttnttttt tgncgttggc ccaaagnaat aatttttaag gggtnctcc naaanaaana 540
aanaaaggaa gttgttngcc ctttaaattt aaagggggaa agaagtttgg gggaaaccct 600
tttaccaaaa cccttttttt tcccgcanaa aaanttnaac ccctttgaaa gnaaggngga 660
ancccaaacc ccaaggatng ganaaagnng gggntctttn tttaaaggcn cccacccttn 720
ggggcccatt gnttattngc ctttttttta aacccccccc aaaaaaanaa nttttttccc 780
caaattt 787

<210> 146
<211> 522
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(522)
<223> n = A,T,C or G

<400> 146
cttagggcga attggagctc cccgcggtgg cggccgaggt accttaagac aaaagttatg 60
aatgacacaa gaattcatgg ctaagcaaaa ataaaacctc cagtgtgaaa agagaggaag 120
cagaagcaac aaggtttccc atgaaggttt gtagtttaag acattcccgg actgagttct 180
tgccccttga aaagaggcaa gaagatggaa actcattgtg caccctatgt gcagcaggtt 240
ttctggacac cacagcttca tgaaactctg tgtctgtgaa catcccaaga ggtgaaatca 300
ggaatcataa ataagacctt gtgccttcaa ggagatgatt gtcatttcct caagtttttg 360
aggcagaggc tttgaggatt ctgcactctc ttttcttgta gacatgcaat nccgggaagt 420
attggattca aaattgcttt ctgttccata gaaagggaat taaggagttt atgtttaggg 480
gctcttcttt ccatgttaaa atccctatgt cctcctaaga aa 522

<210> 147
<211> 288
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(288)
<223> n = A,T,C or G

<400> 147
tacttagggc gaattggnan ctcaccgngg nggcggccga ggtacgttgc tacgacgacc 60
tcagtcgcct actgtggggg ctagagggtc tcccactgac cgtgtctgct gttcagggag 120
ctcacccagt gctgcgctac acagaggtgt tcccaccaac tccagtccgt ccagccttct 180
ccttctatga gactctgcgg gagcggtcct cactgctgcc ccggctcgat aagccctgtc 240
cggcctacgt ggagcccatg accgtggttt gtcacctgga gggcagtg 288

<210> 148
<211> 923
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(923)
<223> n = A,T,C or G

<400> 148
tttttttttt tttgaantnt tacccaccnc aaggaancgg gaccgggcca acattgtgan 60
aaccncnctt tccaccttat angggggggg gganaccaca aaanggnctg gggggataac 120
cacgggggga cacacacaca cacatacgaa aggggatnac gaaaccgngn tnaaatnccg 180
anataaaagg gacntctggg nnattaatta ccgganaaaa tntacacntt ggnccaaggn 240
acncacgggg gnngggggag aattncncca accctnangn ttntncntta agganaagna 300
ccggggggacc accggaaaag ngggatnaaa ccntttttgc caaattgggn gaaagaaccn 360
tnttgcctta attnttgggg nccaagggng ccaaagnncc aaaaaaattg gggttggcnc 420
ccaaatnatt gggaccattn ggatngggag gcggnccaac aaanaacagg gggttnaatt 480
ttccaaaatt ntttttgggg ggaaagganc ccttaccntt gggggggggcc cttnttgttg 540
ttnaaattnt ttaaaaaaac ccnaatttgg ggaaatttac ccggnttant tgggaggngg 600
gaaaaaattn gganccaaac cccaaagggg ggnntttaaa atttncccctt nttggggacc 660
attngggccc cccccaaaaa ggnnttattt gccaaanccc gccttttccc gccttttnaa 720
aaaacccnaa nttntttntt tncccaaaaa aatttntttg ggggccnttt ccctttnnaa 780
atttattttg ggggcccttt taaaaaaaat ttngggggna aacccctttn tttntcccaa 840
aattttttn ttttnaaacc ccnaaatttt tttttnccca aaatttnaaa atttttttn 900
ttttgggnnt tncccccttt tgg 923

<210> 149
<211> 660
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(660)
<223> n = A,T,C or G

<400> 149
cctttttttt ttttgaanct nncccncctc caggaacgnn cgngccaaca tntnagaccn 60
ccttacaacn tnataagggg ngagacacca acacaangan ctggggggnt aaccacgggg 120
ggacncacac acacactncg aaagggatna cgacaccgng gatanattnc gnaataaaaa 180
ggaaccntnt gggnnatcaa tcacngcaaa aatnatncnc nttggaccna agagccncca 240
cngggggggg ggggggaaat ntccccaacc tnaaggcntn ntnccnttag gagaagcncc 300
gntggacanc cgnanaaggg gantattctt ccnccnaagg annaagggcc naanaaaccn 360
nccttggngg agtnggggcc cnccnccggn ngcctttggg taaaccaccn ccctnnggaa 420
aagnnctttg gntnaaanaa agggggnaac cacccgggna ccaccnnttn ggancacccg 480

ggggtggagg gaanaaaccc ttttccaaag ggaagaaacc cnaanccctt tnnccnnaat 540
ggnggggggg nggaaaanaa ccccaaaaaa ngaaacaaat tnggcgggnn tncgccaaag 600
ggtanccccc caaagggaca aaggctaccc ttgggtggng ggnngggaaa aaaaaaaaaa 660

<210> 150
<211> 145
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(145)
<223> n = A,T,C or G

<400> 150
agctcnccgc ggtggcggcc gaggtaccat ttctaggctt cttaaagcgg acaggatatg 60
cacatgtctg tcctccatac cgtgttcatt atgttctaaa agttggatcc catcagtttg 120
ttttatagaa tgaagacagg tgtgt 145

<210> 151
<211> 559
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(559)
<223> n = A,T,C or G

<400> 151
ttagggcgaa ttggagctcc ccgcggtggc ggccgcccgg gcaggtacaa gactctctcc 60
catgctggat taaacttctt aaatacttgg aacatctggg ccaggccttc agtgtcctcc 120
ttggcaggga tggcaaagta gactgctcgg gcangatgac cctccagctg cacccgaggt 180
ccatccacca ggaaggtata taagacctta ccccttgggt tataggtccg gtggataaat 240
aagatctcag ggaaatggtc aaagacactt tgcataaagc agctctggta gttgaaggta 300
tctaactggg cagtcttgtt aacctggtgc agcagcatag gtgggcttga gtccttaatc 360
aggagcccat tcagcattgt cagggccatg ggagagatga gagctgtcca aatgccaagg 420
tcaaaatact ttctttgcag ggcagctgac cacggggctt tgagtctctc aagcatcaag 480
taagttgagg ctggaggcta gacaatcatt cccagatctt ttttcaaaga tgggcccaca 540
gccaggctcc gtcgcacct 559

<210> 152
<211> 318
<212> DNA
<213> Homo sapiens

<400> 152
cgaattggag ctccccgcgg tggcggcccg cccgggcagg tactaatgtt attaatgtgg 60
ctgacaagta attagaaaac tggaaattaa attttacaaa catttttaaa atcgctacaa 120
ttaaaaaaat tcaagatggt tacattatga atatgaatga aatgtcatta gcgacttcgt 180
taaatgtata tgtaattcta tattttcccc aaaacccaca ttttatgaag aatatttatt 240
tatttattta tttttggttt ttgagatgga gtctcgctct gttgccagac tggagtgcaa 300
tgggcgatct ccgtcact 318

<210> 153
<211> 411
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

<400> 153
ggagctcccc gcggtggcgg ccgcccgggc aggtacatgt aaaatcttac tgcagtttta 60
tgtttttaat agtcaaaata gaatgtataa tcttgatgat gtttataaat catcaaatgc 120
cctttggggt gtaaaaatgg gttcttgagc agcagtgtct aatgattcca tcacaaattt 180
gttataaagc caaactccca ttgaaagtgt cactttatgc ttaataggaa atcgttatga 240
ttaaagcatc aaggaagcaa atataaagtt taatgaaaat ccaaggggaa gttctaaatt 300
gcaaaacttg gcacttatct acagtntttt gaaaaataac accaccggta ttcaaaccta 360
cctaggaata tctnaaaata acctgttaat taagtgttct tagaaagggg a 411

<210> 154
<211> 204
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(204)
<223> n = A,T,C or G

<400> 154
ggcgaattgg actccaccgc ggtggcggcc gaggacacct acacggatgc gaacggcgat 60
taagcagcat cacccagcga gttgacttgt cctccaggnt gggaatggga agatgagngc 120
atggnnttat gacataaatc gagtggngga tgagaaaggc tgggaatatg gaatcaccat 180
tcctcctgat cataagccca aatc 204

<210> 155
<211> 233
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(233)
<223> n = A,T,C or G

<400> 155
aggtactcgg gcctctgcca ttccagcctc gggccctgag atccctgaac ccccgacctc 60
tgtctcctgg gccccagcta cctcagattc tagccctggg acccctgaac tcctagatgc 120
tatctcttgg gtccccaaaa tcttaagttt ntgctggncc aagtcgctat ctntggaacc 180
tntgaacccc aacctcttta cctggatccc tgtggataag ctttaaccct ggg 233

<210> 156
<211> 411
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

<400> 156
ggcaggccga ggtagtgact atganacggt agtccatcct ttctacgctt attggcagag 60
tttctgcact caaaagaatt ttgcatggaa ggaagaatat gatacacgng nggtttcaaa 120
ccgctgggaa aaacgagcca tggaaaaaga aaacaaaaag attcgggaca aagcaaggaa 180
atgagaagaa tgagcttgcc cntcagntgg gaanntttna tttcntaaaa aganaataaa 240
aagagttcan gcncatttga aaacttgtgg aaagaacata atgcaagaga angccnanga 300

aaagccgaaa gagatgaggg cgggctagca gaannctaan agcaggcnca aaacttggtt 360
nnagcagtta ccttgccctn ggcggcccgc tctanaaact angtgggatc c 411

<210> 157
<211> 564
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(564)
<223> n = A,T,C or G

<400> 157
cgggcaggta ctcacagctg ctatcaggtc atcaagagtg tcggtaagcg tctgagctgg 60
agttgcaacc attagtccat ctggttcttg aactaacagc ccctgatcat gtccagtaat 120
agcaatctga ggctgtccta caatctgctg attacctgat actttctgaa gttcaagaga 180
atttgtccca ttagaaccta agtcactgga aaagttacac tgtggagatg ataaaggctg 240
gactgggaca aaatcaatct gttctgccga tggtggagac tgttgctcat catcaacatc 300
attatcttta aataagattg tgtcaacctg aggtaactct gaaaagtgat cctctgggag 360
actaccatct ccttcccctt ctgggaagac tcctctatga gagcactgtt ggtgtagaga 420
cactgtgtct ttctgacctt tggtttccaa gtattctttg gtgaattgct gctgtgtttt 480
catctgcaac tgcctttcca ctttctgcag ttctttcaat attttcttct tcttctggac 540
ttgctcttct ctgntctttt taag 564

<210> 158
<211> 656
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(656)
<223> n = A,T,C or G

<400> 158
tagtttttcc ttaaggaagg ccgcggcccc ngaagnggtt accccgtcta tngggggga 60
aaaaaggaat agnacanaaa natttcatta aaacccccaaa agcccattan aattatttnt 120
ggcnanaggg agggaacctt antnccccac tttttttaa ntctncnntn nctctttatc 180
nnttngnggg ntttnttana ccntaaagca aaaaattaaa accttttttn gccaaaaggg 240
ggagggaagg ccccaaaaaa gnccttaaan ntanccccccc cccgggaaaa aanccccaag 300
ggaacccgna aggnccttat ccccttaana gggaaaaccn aggccttta tanantaggn 360
aagggccaac ccaaccccccc ccggttcctt taattgggtt aaggnccaaa anaaaaattt 420
aangctttgg gggggaaaa agngaattnt ttttaattta agggggttt anagnnaagg 480
gggcccggaa acccaanaaa aaccnccntt aacccccccgg naaagggccc ccnttggggg 540
gttgggaaat ttnaagggcc cttgggggtt tnttggttcc ncccaaanng gnaattnang 600
ggaaaaattc cttttaaaag tttttnccaa aaaccctntt ttnaaaaaaa tttttt 656

<210> 159
<211> 558
<212> DNA
<213> Homo sapiens

<400> 159
tgagagatcc cctcataatt tccccaaagc gtaaccatgt gtgaataaat tttgagctag 60
tagggttgca gccacgagta agtcttccct tgttattgtg tagccagaat gccgcaaaac 120
ttccatgcct aagcgaactg ttgagagtac gtttcgattt ctgactgtgt tagcctggaa 180
gtgcttgtcc caaccttgtt tctgagcatg aacgcccgca agccaacatg ttagttgaag 240
catcagggcg attagcagca tgatatcaaa acgctctgag ctgctcgttc ggctatggcg 300
taggcctagt ccgtaggcag gacttttcaa gtctcggaag gtttcttcaa tctgcattcg 360
cttcgaatag atattaacaa gttgtttggg tgttcgaatt tcaacaggta agttagttgc 420

tagaacccat ggctcctttg ccgacgctga gtagatttta ggtgacgggt ggtgacaatg 480
agtccgtgtc gagcgctgat tttttcggcc tttagagcga gatttataca atagaatttg 540
gcatgagatt ggattgct 558

<210> 160
<211> 820
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(820)
<223> n = A,T,C or G

<400> 160
ccacntnaga tttcnttagc aagtcngngt cnccgnagcg cttactcncn gnaggcctta 60
attcaagact tngcgatcgn tnaggcccca ngntnacgng nccacangnn aaatgcacaa 120
tggggcagta aaccttgncc aaacagggng taagnacang tacacgnaca tattanatat 180
ggacntttna tcnatgtgnt tcgangnaca nggagtatat anagnaaaga naactaacct 240
tttaaaactt gggnttnccc caaaanaaaa ngcangcaaa nttatanaaa attatccccc 300
ctaaccttng gttcctttcn aaaaaagnga aaaaattcna attnggcctt cccaataggg 360
naaggcccaa tnttgttncc cctngggggg aaattacctt tttgggggga anggaaaaaa 420
ttcccccaaa acaatannaa ggnccaacna cccaaangtn aaccnaaaaa ataattncca 480
aaaacccnaa cnaataagtt tttaatttcc ngtttaaccn cctttggacn ccnccgnggn 540
ggtccngngg tcntcccggt cntcccaacc accnggantg gggnttaggn ggnaagtacc 600
nttccnccaa aaatttttct gncccccccct taattnaagt tncgggnaag ggtttccgnt 660
ttnanttntt aacccgntcc ggnccnggcc tttcaaacct ttgnggtcca cccggnttcc 720
tgttttttttn tttaaccnaa aaacngggtt tcccttgggg aaacctttgg ggggnnaaaa 780
aaaaaaaccc cccttgngg nccggntttt aacccccccaa 820

<210> 161
<211> 416
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(416)
<223> n = A,T,C or G

<400> 161
tgcatacatc atctttcttg cccccactcc cctttctaag aacacttaat taacaggtta 60
ttttgagata ttattgcgnt nangtgtgaa taccggtggt gttatttttc aaaatactgt 120
agataagtgc caagttttgc aatttagaac ttccccttgg attttcatta aactttatat 180
ttgcttcctt gatgctttaa tcataacgat ttcctattaa gcataaagtg acactttcaa 240
tgggagttng gctttataac aaatttgtga tggaatcatt agacactgct gctcaagaac 300
ccatttttac accccaaagg gcatttgatg atttataaac atcatcaaga ttatacattc 360
tattttgact attaaaaaca taaaactgca gtaagatttt acatgtacct gcccgg 416

<210> 162
<211> 462
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(462)
<223> n = A,T,C or G

<400> 162
ncngcggacc cgagctatca gctggtgtag ccagtaggca agaagaatgg agaactgcaa 60

agggagaaga agaaataaag acttacaggt ncagaagaga aaagaaaaca cttaactgtt 120
ccaaaagagg aataaaatac ccacctgttc tcaaagaatc atgctcatgg agcatttcct 180
ggatcttggn aggaatccaa aaaaggcaac agnacaaatt caaccacaat tattcgtacc 240
ctgccccggg cgggnncgcc aacccgcggg tgggaggctc ncaaantccg ccctatagtt 300
ggaggttcgt attacngccg ccgcctcact ggccgncgtt ttttacaacg tccgtggact 360
ggggaaaaac ccctgggcgt taccccaacn ttaattcggc ctttgcaggc acancccccc 420
cttttcgccc aggcntggcg ttaatnagcc gaaaanaggg cc 462

<210> 163
<211> 895
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(895)
<223> n = A,T,C or G

<400> 163
tgcgtagggg ttccgtaccg gggtgattcc gaatnaanga cctctggaat aatnccgnag 60
ggtgtcctng cgaggncncc gggggggggag nattcgcgac gtgagntttt ctcagnaagn 120
cnggtcaccg aaggnggtgc tcagaaatgt ttacacntag atctcacgnt tctccaaata 180
aggaagtgna gaccacggcn taccttttttg cggacgacct naagcggaga ganaaaacnc 240
nttttggtta tgnangnagg ggangntcat atananaaag ttnttanacc acccnccaat 300
naaggtnagg ggccccttaa aaataagtct atgnccccna accccacact ntttaaangg 360
gaaanaagnc cggttttcca aangccnctt caaaaaccaa ctcccnacct ttancccctt 420
aaaananaaa aaaaatttcn tcnccaaaaa taacccaatt taattnaaan cgttgggaaa 480
aaccttncct cctttccaaa ccaaaccncc nccaaaaatt tttgggggga acccccaaca 540
atttccttta attcccaacc cccngcntta atttaaggga aaaagggtaa aaacccttta 600
aaaaatttgg gntnttnaag gnttnanttt taaaaagggg ttnaaaaccc aaatttgggg 660
aaaaaaaana acccaatttt tttcctttcn nccnttttct ccggggccna atttaaaaaa 720
gggccccccc tttggggccc nggtttccta aaggnnaaat ttttnaaaaa anaaaaancc 780
aaccctttgg naaaaaaccc tttggggaac ccanaaantt ttttaaaaac ccaaagggcc 840
cccccccaan aanttaattt ncctttaacc caaaaaattt ccaaaaaacc cccna 895

<210> 164
<211> 180
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(180)
<223> n = A,T,C or G

<400> 164
agctggactt tttcaaaccc agagttggac caaaatnttt gcttggagat tccgattttt 60
gtccaaccaa tgagtgaacc ttgctttcat ctggtacaag gtccatgctc ttcgaggctt 120
tcaaattaat tgattcaggc tgcctggccg gtgtcacaga tctgaagttg atgtgctacc 180

<210> 165
<211> 566
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(566)
<223> n = A,T,C or G

<400> 165
ccgggcaggt actaatgtta ttaatgtggc tgacaagtaa ttagaaaact ggaaattaaa 60
ttttacaaac atttttaaaa tcgctacaat taaaaaaatt caagatggtt acattatgaa 120
tatgaatgaa atgtcattag cgacttcgtt aaatgtatat gtaattctat attttcccca 180
aaacccacat tttatgaaga atatttattt atttatttat ttttgttttt tgagatggag 240
tctcgctctg ttgccagact ggagtgcaat ggtgcgatct ccgctcactg caacctccac 300
ctcctgggtt caaacgattc tcctgcctca gcctcccgag tagctgggac tacaggcacc 360
gccaccacgc ccggctaatt tttgtatttt tagtagagac agggtttcac catgttagcc 420
aggatggtct ccgtctcttg acctcgtgga tccaccccgc cttggcctcc caaagtgcgg 480
ggattacaga cgcgagctac cgtgcccagc cgcaacattg attttttaag taaagtcgng 540
aacgtttatt tatttatatc aaaaat 566

<210> 166
<211> 371
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(371)
<223> n = A,T,C or G

<400> 166
tagggcgaat tggagctcnc cgcggtggcg gncgcccggg caggtaccag aaagtgtgca 60
caggattggg aatgtaaaga tcatcaatgc taactcctga ccttgagagc tttacaaact 120
tattggacac agacaagtgg aaaccccgaaa agagaaagca gtcaattcta tatttggagg 180
aagatcatga aaggttttac ataggaagga tttccccttt ggtcaatcag aaaagcatga 240
attctatcaa tagtagaaat ctataaatca gtctaactat atactagaga aaacacacag 300
aaaatgcaag taagtataaa tatgtccagt aatttcttaa cattatcttt ttactaataa 360
atataatggg a 371

<210> 167
<211> 371
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(371)
<223> n = A,T,C or G

<400> 167
ttagggcgaa ttggagctcc ccgcggtggc ggcccgaggt gcagagtgtg gccacagctc 60
cttttatggc caagccttgt ttctccagtt tcagtttttc ttgggctgtt tgcaaatttg 120
tttcgcagtt aaaaggggat ttgccagctg ggatggggga attgggaggc agatggggct 180
tccaggagcg aggatagggt cgttggcctc aggtgccgct ctccagttag gagtatttta 240
ggcacctcgt tccttattgt caggtttaac ttcatttgtt ctcccacttt ataccttaag 300
tgaatttgta gatgtgacaa ggctttcgca gttatatagc tttccagatc aatatcgnac 360
cggccgcccg g 371

<210> 168
<211> 231
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(231)
<223> n = A,T,C or G

<400> 168

aggtacccga gctatcagct ggtgtagcca gtaggcaaga agaatggaga actgcaaagg 60
gagaagaaga aataaagact tacaggtcag aaggaaaaga aaacacttaa ctgttccaaa 120
agagaataaa atacccactg tcttaaaaga atcatgctca tgagcatttc tggatcttgg 180
agaatccaaa angcaacang acaaatcaac acaattatcg tacctgcccg g 231

<210> 169
<211> 317
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(317)
<223> n = A,T,C or G

<400> 169
gcccnggcag gtacatgtaa aatcttactg cagttttatg tttttaatag tcaaaatnta 60
atgtataatc ttgatgatgt gtataaatca tngnntgccc tttggggtgt aaaaatgggt 120
tcttgagcan cantgtntaa tgattccatc acaaatttgt tataaagcca aactcccatt 180
gaaagtgtca ctttntgctt aananggaaa atcngttntn ntaangcatc aacgaagcan 240
atataaagtn taatgaaaat ccaaggggaa gttctnaata gcaaancttn gcncttattt 300
acagtatttt gaaaaat 317

<210> 170
<211> 331
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(331)
<223> n = A,T,C or G

<400> 170
aggtaccatc tgatctttnn gccatgtgca tacatcatct ttcttgcccc cactcccctt 60
tctaagaaca cttaattaac aggttatttt gagatattcc taggtaggtt tgaataccgg 120
tggtgttatt tttcaaaata ctgnagataa gtgcccaggt ttgcaantta aaacttnccc 180
ttggatttca ttaaacttta tattgcnttc ttggtgctta atcataacga ttcctattaa 240
gcataaagtg cactttcaat ggggagttng gctttataac aaatttgtga tggaatcatt 300
agacactgct gctcaagaac ccattttaca c 331

<210> 171
<211> 306
<212> DNA
<213> Homo sapiens

<400> 171
gggcgagtgg cggccgaggt acccctgatt aggaataagg cagcctcggc caaagcagca 60
agggcagcag accttatgga catatttggt ccattttgga ttgagttgac cataaggctc 120
ttctgatttg ggtttaaaca caccaataat tttcctctta ggatccttca caaagtaact 180
tccacttgaa ccttgagaga ttctttctgg aaaaattcca acttctattg cttgctctgc 240
tctcagcata atatcagcaa attctgggtc atccaagaat gcattcatct ctgaagtacc 300
tgcccg 306

<210> 172
<211> 291
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(291)
<223> n = A,T,C or G

<400> 172
cgggcaggta cttcagagat gaatgcattc ttggatgacc cagaatttgc tgatattatg 60
ctgagagcag agcaagcaat agaagttgga atttttccag aaagaatctc tcaaggttca 120
agtggaagtt actttgtgaa ggatcctaaa naggaaaatt attggtgtgt ttaaacccaa 180
atcagaagag ccttatggtc aactcaatcc aaaatggacc aaatatgtcc ataaggtctg 240
ctgcccttgc tgctttggcc gaggctgcct gattcctaat caggggtacc t 291

<210> 173
<211> 242
<212> DNA
<213> Homo sapiens

<400> 173
ccgggcaggt acatgttctt tgttaagtgc caacagtatg tatactacac tatgtagaag 60
aaaaaataag aatttgaaat ctgccgaact aagtttactg gtgctaactg ttaactggta 120
tcttgccttc cccctatgag ctgaaaaatc aggtattatt gagtatcaca aatgcaagtt 180
gcctcagctc ctacagcata agaaaagacc aaacttttta ttttgttaaa tctgaagtac 240
ct 242

<210> 174
<211> 316
<212> DNA
<213> Homo sapiens

<400> 174
gagctccccg cggtggcggc cgaggtatag actcctcctt agaggtgtct agcagtagga 60
aatatgataa gcaaatggcc cgtgccttcc agaaatacaa gcaagcaaat gaatctgaat 120
cctatggatt cacctcattc ccctatatcc cctctgccac caacactcag ccctcagcca 180
cgaggtcagg aaacagagag tttggaccca ccatcggtcc tgtgaatcag cccttatgga 240
aatggactag aactccagca gttgtctact ctggatgaca gaactgtcct cgtaggccaa 300
agactgcctc tcatgg 316

<210> 175
<211> 278
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

<400> 175
ccacccgcgg tggcggcccg aggtctcggc caccctaagg gcaggtcttc tgccccaggc 60
cgcgtgtggt ttctttcgac acactgagga agcctttctc ctgagatcac caaatgcagc 120
ctgcccggtt tctgttcccc attactgcgt atgcggtggg caaacctcct ccggccctga 180
aagctcctgg ctgcctgggg attttctgtg tgctcctaca taaaaagcag cttctgtcac 240
tcanaaaaaa aaaaannnaa naaaanaaaa cctgcccg 278

<210> 176
<211> 390
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(390)
<223> n = A,T,C or G

<400> 176
cgggcaggtc acaggccccc ttcaatggcc gcattcagga tggctctata cacagcagtg 60
ctggtttatg tagagttcag cagtcacttc agagatgtat cttgtctttg tcaggcccctt 120
catcttcatg gcccacctgt tttctgccgt gacctttggt cccattgagg actaaggatc 180
gggacccttt ctttaccccc tacccattgt ggctcccacc ctgcctcgga ctggtttacg 240
tgtcctggtt cacacccagg acttttcttt gcaagcgaac ctgtttgaag cccaaagtct 300
taactcctgg tctcgtaagg ntccactgag accaagatgt cttgagaaca accaaagaag 360
gcctgctctt tgctggcttt taaaaaatga 390

<210> 177
<211> 480
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(480)
<223> n = A,T,C or G

<400> 177
tcncccgcgg tggcggccga ggtaccaaag actccattcc tcccacggct gaaaaaatag 60
gtcatcgggt gcgtggggaa tctgcacatt taattgtcat tttttaaaag cagcaaagag 120
caggccttnt ttggttgttc tcagacatct cgtctcagtg gaaccttacc agaccaggag 180
ttaagacttg ggcttcaaac aggttcgctt gcaaagaaaa gtctgggtgt gaaccaggac 240
acgtaaacca gtccgnnggc anggtgggac ccacaatggg tagggggtaa agaaagggtc 300
ccgatcctta atcctcaatg ggaccaaagg tcacngcaga aaacaggtgg ccatgaaaat 360
gaaagggcct gcaaagacaa gatcatcttt gaagtgactg ctgaactcta cataaaccag 420
cactgnttgt gtatagagcc atcctgaatg ccgccattga agggggcctg tgacctgccn 480

<210> 178
<211> 380
<212> DNA
<213> Homo sapiens

<400> 178
gaattggagc tccccgcggt ggcggccgcc cgggcaggta ccagtccctt agtctataca 60
gcacccttgg tttaagcaca cttgccatca tctggtatcc tgctagacta gaatctctta 120
aaagcaaatt ggtttctttt caaagaccaa cttgactcca aagagagatt cagaatccta 180
cttctcctgc tgctgcataa agaatctcaa ccttcatttt atttgaacac ggaccaaagt 240
gttcctgctt ctgagttgtc tgtaagctaa ttctgcagat gttccattca gatttaaagc 300
ttttttactg cataggatgt ggataggaag cctaactatt gtatctgatg gcaaggcata 360
tgttgcagcc acaagtacct 380

<210> 179
<211> 358
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(358)
<223> n = A,T,C or G

<400> 179
aggtactgtg gctgcaacat atgccttgcc atcagataca atagttaggc ttcctatcca 60
catcctatgc agtaaaaaag ctttaaatct gaatggaaca tctgcagaat tagcttacag 120
acaactcaga agcaggaaca ctttggtccc gtgttcaaat aaaatgaagg gtgagattct 180
ttatgccaca ancaggagna agtaggattc tgaatctctc tttggagtca agttggtctt 240
tgaaagaaaa ccaatttgct tttaagagat tctagtctag caggatacca gatgatgcca 300

agtggtgctt aaacnaaggg tgcctgtatt agactaaggg actgggtacc tcccgggg 358

<210> 180
<211> 240
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(240)
<223> n = A,T,C or G

<400> 180
ngtggcggcc gccgggcagg tngctcttac ccatattata aaatataatc caagccagat 60
tagtcaacat ccataagatg aatccaagct gaactgggcc tagattatng agttcaggtt 120
ggatcacatc cctatttatt aataaactta ggaaagaagg ccttcagacc atcagttagc 180
tggagctaat agaacctaca cttctaaagt tcggcctaga atcaatgtgg ccttaaaagc 240

<210> 181
<211> 408
<212> DNA
<213> Homo sapiens

<400> 181
aggtttactt ttagaataat ttatatctga taaattgaat acatcaggat ttgatgtatt 60
aagagcaatt tcaaaagata ataaaaataa gctatagcat atgtcctgaa aactatttac 120
aataccattt aaatatttta ttcatatcta tccgaatatt gaccaggaca ctaatgccac 180
actgcagagt taataatctg tgcattttct ttaccgtaat ggacagagta tgctttctta 240
gctgcctgat tcacatttct ctaaaaatgc tttatcggtt aaagctttca accagcttaa 300
aaataatgcc tctcccatgt ctcatgagtg gaaaaaaagc aaacaaacct gtgtttaaca 360
ataaggtcag catgacatac agcaacaaga gccagtaaat cgaaaatg 408

<210> 182
<211> 558
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(558)
<223> n = A,T,C or G

<400> 182
cgggcaggta ctggcgcgng tggntgatgt gctnatgcca ccatatttct tgnangggac 60
ctgcccnagg agcactgnca gtcttctgct gacccccagc cccagagcac accttgtctt 120
gntcaggaca gtncacagga gggctgaaca ntgggaccag gatcnttctn ngaattncac 180
acttaatnct tctctctttt aaaatcttta acatgaaaga tggnttntct aaactttgat 240
attnaggcat ttatttaaat cccttatgnc cgggngcatg gctcacgcct gnnatnccan 300
cactttgaga ggcctagacc ggcggatcat gaggtcaaga gattgngacc atcctttgct 360
gaaacggnga aaccccgttt ctactaaaaa tccaaaaatt angtnggtnt ggtggcgngc 420
acctttngtc naaccactta agancttacg cagganaatg gcgtgaaccc cggaggcngn 480
gcttgcattg agtttagaat ntngccctgt tttacttgnt ananaantag actccnctna 540
aaaaaaaaaa aaaaaaa 558

<210> 183
<211> 452
<212> DNA
<213> Homo sapiens

<400> 183

aggtctcttt aggagtgatt ttgtcagcat agctcctcaa gtatagttcc tcaataattg 60
atatgtgaac taaagcaacg agttactgac tgcccatacg cccatcataa atgatggtaa 120
gcataggata atggctttag acagttttat tcaaaaagag agaaattggg aggcacccag 180
caaacactgg tctataacat ttctgaattc cagtcagata tgtgttgatg atttcttgat 240
aaggagctca agtcttattc tctgggagtt ctctgaggtt cttgcctctg ccctctgaag 300
tcatccttcc ttttgcataa aaactggcct gtgggctctg tgtgcagcca aagtaagcct 360
tcttatcctg cttcgtgccc atgaaagggt aggggatcag ggcaggaact ggaaagcttt 420
tcttgtaaat aaaggccata tagtaaatat tt 452

<210> 184
<211> 466
<212> DNA
<213> Homo sapiens

<400> 184
tagggcgaat tggagctccc cgcggtggcg gccgcccggg caggtacttt tatttctaaa 60
aacatctgcc aaataaaacc aaccaaaact cattattttc accattacca agagctagct 120
ctattaaatt tatatcaaca agttaatctg tctctatata gggaaggttt ccgcaaacta 180
aaatctaaac ctaacttttg tagacaggga ttatggtagg aatttggtat tacaactaaa 240
ccagccagct aaggagtgaa cctaagaaaa aatatattac atatccttat tgacagaatc 300
acagttagat gctgcactaa aaccctaaat ggtatatctc tcagcccacg taaaatttca 360
gctcaaggaa gttcacaaat agaaacagat aataatgttc aaatattact taagagtgat 420
tacacttaag tcaaacatgg ggaaagaata gcaaatacaa acccca 466

<210> 185
<211> 319
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(319)
<223> n = A,T,C or G

<400> 185
gcggtggcgg ccgcccgggc aggtacaatc actgagatct ctcttcaact aaaactgaga 60
attggctaca gaaaataagt tgtgacatga agataaaata catattggca aaatataaca 120
cactgaatcc cttggctaca ttaaatcctt aatattggtg aattcatttt ggctttatat 180
tttaaaaaaa tatttatttt aaacatgaaa cttatttttt taacaaagtg tctattacta 240
ttcccctatc tattgcagna aagaatcagt tttttaaaag gaaaataggt tggcatctgt 300
ttgacagaaa tgagtacct 319

<210> 186
<211> 360
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(360)
<223> n = A,T,C or G

<400> 186
aggtactcat ttctgtcaaa cagatgccca actattttcc ttttaaaaaa ctgtattctt 60
tactgcaata gatagcggaa tagtaataga cactttgtta aaaaaataag tttcatgttt 120
aaaataaata ttttttttaaa atataaagcc aaaatgaatt caccaatatt aaggatttaa 180
tgtagccaag ggattcagtg tgttatattt tgccaatatg tattttatct tcatgtcaca 240
acttattttc tgtagccaat tctcaagttt tagttgaaga gagatctcaa gtgattgtac 300
ctgcccgggc nggccgcacc gcggtggagc ttcaattcgc ctatagtgag tcggattacc 360

<210> 187
<211> 220
<212> DNA
<213> Homo sapiens

<400> 187
gcgaattgga gctccccgcg gtggcggccg aggtatagac tcctccttag aggtgtctag 60
cagtaggaaa tatgataagc aaatggccgt gccttccaga aatacaagca agcaaatgaa 120
tctgaatcct atggattcac ctcattcccc tatatcccct ctgccaccaa cactcagccc 180
tcagccacga ggtcaggaaa cagagagttt ggacccacca 220

<210> 188
<211> 200
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(200)
<223> n = A,T,C or G

<400> 188
cggcaggac caaatccatc ctctgactta ttctttttca gggaatcttt ctccgtccct 60
tgtttgcatt tcttgttggc tgtaaagatg tattttatgt caccatcttc aaaggtatat 120
gggtcattca cttctcccaa actgtctcca ggttgttgng atagaggcaa tgggtcaagg 180
aagtggagtg gctgcaactg 200

<210> 189
<211> 337
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(337)
<223> n = A,T,C or G

<400> 189
aggtaccaaa gactccattc ctcccacggc tgaaaaaata ggtcatcggg tgcgtgggga 60
atctgcacat ttaattgtca ttttttaaaa gcagcaaaga gcaggccttc tttggttgtt 120
ctcagacatc tcgtctcagt ggaaccttac gagaccagga gttaagactt gggcttcaaa 180
caggttcgct tgcaaagaaa agtctggggt gtgaaccagg aacacgtaaa ccagtccgag 240
gcagggtggg agccacaatg gnagggggggg gtaaaggaaa agggtccccg atcttaagtc 300
cctcaatggg gaccaaaagg gtcaccggca gaaaaac 337

<210> 190
<211> 306
<212> DNA
<213> Homo sapiens

<400> 190
ccgcggtggc ggccgcccgg gcaggtactt ttatttctaa aaacatctgc caaataaaac 60
caaccaaaac tcattatttt caccattacc aagagctagc tctattaaat ttatatcaac 120
aagttaatct gtctctatat agggaaggtt tccgcaaact aaaatctaaa cctaactttt 180
gtagacaggg attatggtag gaatttggta ttacaactaa accagccagc taaggagtga 240
acctaagaaa aaatatatta catatcctta ttgacagaat cacagttaga tgctgcacta 300
aaaccc 306

<210> 191
<211> 204
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(204)
<223> n = A,T,C or G

<400> 191
ttagggcgaa ttggagctcc ccgcggtggc ggccgaggta cacaagaaaa agcggttacc 60
acgcacagga ctctgggttc ctgtcctacc tcttgcactt gggcaaagga cttaacctcc 120
ttatgcctct gttgctttgt ataaaatagg gataattatg gtaataccac agtttgtttt 180
gatgattaag agttgataca tatn 204

<210> 192
<211> 590
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(590)
<223> n = A,T,C or G

<400> 192
tggagctccc cgcggtggcg gccgcccggg caggtacaat ttgaactgtt cagattccta 60
aaaatcatat ggctgnttag gatgtcgaaa ccattcttag agcctagaca taatatctga 120
agtaagtatc agcaatgctt ttaataattc caaaactgtt ttngtagaaa ataagcttgc 180
atgaagaagg ttaaaaaata ataaatgggt gataaattga tttttttttct cccatacaaa 240
actcatgaca acatcatggc cataacgcta atgcattatg aatgtatggt gtgaaatgtg 300
ccattcaaaa gcacattcag gctgaggaaa gacaggccta aggttaaggc cattgccact 360
attttaggtc attcataatc aaaacatgta attagcggta gtaaaagcat tctactgaag 420
aggccaaagg gggacccnat ctgtccaang ctttcattnt gttataaccc aatgggcaaa 480
caagcctttt tcttagaccn gcctttgcaa tggtngtttt tcaaggcncn agaaagaaca 540
ccctgaaggg gggcttttac ttnttttttt ttaaaatcca atttttcaaa 590

<210> 193
<211> 480
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(480)
<223> n = A,T,C or G

<400> 193
ccgcggtggc ggccgcccgg gcaggtacct ttacataact ggcatgtttg atttttaaca 60
aggccctttg gaggtaacca gagcaagtgc cattagcctt tctgtaggtg aataagagga 120
ggcttggaga ggtgcccaga gccacacagc ctcctaagag gccacactgg catggaatca 180
ggtcatcagc cctgcacgtg gcatgtggtc tctcggtatt tccaatggcc agtgccagga 240
catcaggtct gtgagattaa aatagtagaa aaagatgagg gaaaatgttt catagggttc 300
ccaggcatca agcgtttaga actggaagac acttttcact gcatagtttg tcagaaaatg 360
cttaaatttc attgggtcag aatgatatct agcttaccaa gttatctgaa cttttaagaa 420
anggggtngg ttttcttttt ttggtgnggn gttttntgng nntgggttgc ttggttntgg 480

<210> 194
<211> 166
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(166)
<223> n = A,T,C or G

<400> 194
aggtacacag aaaagcggtt accagcacag gactctgggt tcctgtccta cctcttgcac 60
ttgggcaaag ganttaaacc tcnttatgcc tctgttgctt tgtataaaat agggataatt 120
atggtaatac cacagtttgt tttgatgatt aagagttgat acatat 166

<210> 195
<211> 450
<212> DNA
<213> Homo sapiens

<400> 195
acttagggcg aattggagct ccccgcggtg gcggccgagg tactaaaaaa aaaaaaatcc 60
ataccaaata tttttacaaa ttaagattga tgtaggtttt aaaaaaggca tttgtatgtt 120
gttagcttac atatggggct aggtaatttc attgcttaaa aagatgcgcc taggctccct 180
cttggtggct ggatttcttt ttcttcgccc gtggtggcca tggttcttaa tagggccacc 240
ggaatcatgg tttctttctt tttttttttt ttgagatgga gtctcgccct gtgacccagg 300
ctggagttgc agtggcaccg atctcggctc actgcaacct ctgcctcctg ggttcacgcc 360
attctcctgt ctcagcctcc tgagtagctg ggactacagg tgaataccac cacgcccggc 420
tgatttttgt atttttagta gatggggggg 450

<210> 196
<211> 410
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(410)
<223> n = A,T,C or G

<400> 196
cttagggcga attggagctc cccgcggtgg cggccgaggt acaacgctan aatantntnn 60
nttcnanntn tttttacaaa ttaanattnn tntntgtttt aaaaaaggca tttgtntgtt 120
gttagcttac atatggggct aggtaatttc attgcttaaa aagatgcgcc taggctccct 180
cttggtggct ggatttcttt ttcttcgccc gtggnggcca tggttcttaa tagggccacc 240
ggaatcatgg tttctttctt tttttttttt ttgagatgga gtctcgccct gtgacccagg 300
ctggagtgca gtggcacgat ctcggctcac tgcaacctct gcctcctggg ttcacgccat 360
tctcctgtct cagcctcctg agtagctggg actacaggtg aataccacca 410

<210> 197
<211> 212
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(212)
<223> n = A,T,C or G

<400> 197
ccggncaggt acttanacct ggtatggaga ccccacgggg tgggaaaggg cttccctctg 60
ccttgacaat ttccttgaat atccancccca gtaagaatat tttttacatn atgactttnn 120
ataacacgtt tataactgaa gcaaannctc gaaganacaa cacttaactt tactacagga 180
gttacacccn atgcattttt aattccaatt tt 212

<210> 198

<211> 264
<212> DNA
<213> Homo sapiens

<400> 198
cggcaggtca ctcataagag gtccatctct aaattgccct cctcttactt cttcccctg 60
cctcatgctt tttctcttta atgactagca tcgaaactct ttaaatgggg caggcctgtg 120
ttcttacctc aggaatagta agaaaagggg gttgggaaca ggggaaatcc agaataaaga 180
cttgagaaag gaacagagtg ggtgatggca gctatgaaga aaaaacagat cagaagaaga 240
gtcctggcac cttaggaaga gaaa 264

<210> 199
<211> 542
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(542)
<223> n = A,T,C or G

<400> 199
cttagggcga attggagctc cccgcggtgg cggccggcag ccggcagctt tgcagcggtg 60
tgttctaggt cagtggcttc aaagactcca gttggattca ttggactggg caacatgggg 120
aatccaatgg caaaaaatct catgaaacat ggctatccac ttattattta tgatgtgttc 180
cctgatgcct gcaaagagtt tcaagatgca ggtgaacagg tagtatcttc cccagcagat 240
gttgctgaaa aagctgacag aattattaca atgctgccca ccagtatcaa tgcaatagaa 300
gcttattccg gagcaaatgg gattctaaaa aaagtgaaga agggctcatt attaatagat 360
tccagcacta ttgatcctgc agtttcaaaa gaattggcca aagaagttga gaaaatggga 420
gcagttttca tggatgcccc tgtttctggt ggtgtaggag ctgcaccgat ctgggaacct 480
cacgtttatg gggaggagn tgaaagatga atttgctgct gccaaanagt tgttggggtg 540
ca 542

<210> 200
<211> 579
<212> DNA
<213> Homo sapiens

<400> 200
ttagggcgaa ttggagctcc ccgcggtggc ggccgcccgg gcaggtactt ttatttctaa 60
aaacatctgc caaataaaac caaccaaaac tcattatttt caccattacc aagagctagc 120
tctattaaat ttatatcaac aagttaatct gtctctatat agggaaggtt tccgcaaact 180
aaaatctaaa cctaactttt gtagacaggg attatggtag gaatttggta ttacaactaa 240
accagccagc taaggagtga acctaagaaa aaatatatta catatcctta ttgacagaat 300
cacagttaga tgctgcacta aaccctaaa tggtatatct ctcagcccac gtaaaatttc 360
agctcaagaa gttcacaaat agaaacagat aataatgttc aaatattact taagagtgat 420
tacacttaag tcaaacatgg gaaagaatag caaatacaaa ccccagggaa aaatgagatt 480
atggtgattt ccaaatgcag tttctataga ttaggcagag gtaatcattt taaagtgatt 540
cattcagcta cccagactct ggaaaacagg tcggggatg 579

<210> 201
<211> 366
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(366)
<223> n = A,T,C or G

<400> 201

ngggcaggtn caacctttct atantgactt ncagncaagg ntttgntgta ttaagagctg 60
acccatagcc agntgcantc actgngcaaa aatttagaga aactaaattt tgcaaacttt 120
actttgccca ctttttatta atacatacat agtaaaaaga atatatttct ncatgaactt 180
aataatgcaa aagcatccaa agattttaat gccaattcac attatactgn gatgctttta 240
tagggaaagt tcttttgtaa aagaatgctc tctcccagaa aaagcatttg ggtatattat 300
taggatactg aagaatttct ccacatttaa gaaacattcc aattttattn ctttcanaaa 360
aaatta 366

<210> 202
<211> 630
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(630)
<223> n = A,T,C or G

<400> 202
tatagggcga attggagctc cccgcggtgg cggccgcccg ggcacggtac ttttatttct 60
aaaaacatct gccaaataaa accaaccaaa actcattatt ttcaccatta ccaagagcta 120
gctctattaa atttatatca acaagttaat ctgtctctat atagggaagg tttccgcaaa 180
ctaaaatcta aacctaactt ttgtagacag ggattatggt aggaatttgg gtattacaac 240
taaaccagcc ggctanggt ggaccttaaa aaaaattttt ttanattttc cttattggnc 300
agaaacnnaa ggttggatgg ttgccctaaa aanccntnaa agggggtttt tttttanccc 360
ccccgnaaan ttttnggccc cggagggggg ccccaaaaan naaanannnn ttaantgggn 420
ggnnaaaaan tntttnnnng ngggggggt nnnncttttt tanccccnggg ggggngnaan 480
aanttccnnt nccanccccc ccngggnaaa aaaaanaatt ttttngnttt tccccaaggg 540
ggnttttttt annaganggg gnngggggnn nttttttttaa aaggggtttt ttcttncccc 600
cnctttttga aaaaaaaggg gggggggggg 630

<210> 203
<211> 433
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(433)
<223> n = A,T,C or G

<400> 203
gggcgaattg gagctccccg cggtggcggc ccgcccgggc aggttgttat tggaaagata 60
tattaagaat ccagttctgg attgcagctg ttattttttt gggaatgctn gaaaaagcag 120
ttttttatag tgaataccaa aacatcagca acactggact gtcaacccaa ggcttattga 180
tatttgcgga gttgatttct gcgattaaga ggacgttggc tcgccttctc gtgatcattg 240
tgagcctggg ctatggcatt gtgaagcctc gtttaggaac agtcatgcac cgggtgatcg 300
gactggggct tctatactta atctttgcag ctgttgaagg ccgtgatgag agtcattggg 360
ggttctaacc atttagctgg tggtcttgat gacattattt taacagntat tgactccatt 420
tttgnggngg gtc 433

<210> 204
<211> 417
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(417)
<223> n = A,T,C or G

<400> 204
ccgcggtggc ggccgcccgg gcaggtacta ttaaatgttg caacttgttt aatagaanac 60
ttacaaatct gtntgttcca cagncttcct ggagtggggt gnctntcaac cctgccccana 120
nccatanaac acatgctgng gctttaacaa tccaagtntg gaaggtaacg ctaattagaa 180
aggtcacaaa cctggaaacg gctaccactc antctgattt tcatcactcc acaactgaac 240
aatgggggaa aagagactaa tggacagtnn ttaatgtgnc acttttgaaa tacaagaacc 300
acaaacagga cncttactaa gagacagagg ttacgatgtt accagangcc atcaatagat 360
nccacactac tntaccantt gatttatcag aatnaacatt aattttggat ttaaaaa 417

<210> 205
<211> 252
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(252)
<223> n = A,T,C or G

<400> 205
aggtacctgt gtgaccaatt ggtagtacat agattcacat ggctttcccc catattgaag 60
atggaatttt tgatcaactg tgacatccaa agcaaatacg agctttattc agcttgcttc 120
tttttaaatc caaaattaat gtttattctg ataaatcaag tggnagagta gtgtgggatc 180
tattgatggc ctntggtaac atctaacctc tgtctcttag taagtgtcct gtttgaggtt 240
cttgtatttc aa 252

<210> 206
<211> 291
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(291)
<223> n = A,T,C or G

<400> 206
cgggcaggta cctgtgttat gcctgtgctc cagcagctna ttgcctcccg natgaactct 60
tctaggtttg gaaattccac tttaaatatg aggaaatgtc tgctcatgta gatgatatga 120
cttgccctag aacacaaatc tagaaaatgc agcaaccaga attttaccca agtttgttga 180
acaccgaaat ctancctctt cccatgactg gccccctctc tctgagcagt aatagtgagc 240
attgctggcc accagggcca cccatnctta ctagggctcc tggtccctac t 291

<210> 207
<211> 506
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(506)
<223> n = A,T,C or G

<400> 207
atanggcgaa ttggagctcn ccgcggtggc ggcccgaggt agctgggagc ccactgcctg 60
ctgccacctc caactccggc cccctcacca tgcactnnct ggacgagcng ctcgacctga 120
agctgagtat caccaagctc cgggcggcaa gagagaagcg ggagaggacg ctgggtgtgg 180
tccggccccg tgctctgcac agggagctgg gcctggtgga tgacagcccc acacctggct 240
ctncaggctc cccgccctca ggcttcctgc tgaactccaa gttccccgag aaggtggagg 300
gacgcttttc aagcagcccc tctcgtggac ctcagcctgt caccaccatc tgggctggac 360
tcccccaatg gcagcagctn nctttccccc gagcgccagg gcaacgggga cctgcttcag 420

tgcccagtgc cttggacttc agccactgcg ctatttggat ggngtcccaa cttctttcan 480
tttttcttgc ccttcgnttc cggggg 506

<210> 208
<211> 197
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(197)
<223> n = A,T,C or G

<400> 208
nggcgaattg gagctccccg cggtggcggc cgaggtacac agaaaagcgg ttaccagcac 60
gggactctgg gttcctgtcc tacctcttgc acttgggcaa aggacttaac ctncttatgc 120
ctctgttgct ttgtataaaa tagggataat tatggtaata ccacagtttg ttttgatgat 180
taagagttga tacatat 197

<210> 209
<211> 165
<212> DNA
<213> Homo sapiens

<400> 209
atatgtatca actcttaatc atcaaaacaa actgtggtat taccataatt atccctattt 60
tatacaaagc aacagaggca taaggaggtt aagtcctttg cccaagtgca agaggtagga 120
caggaaccca gagtcccgtg ctggtaaccg cttttctgtg tacct 165

<210> 210
<211> 416
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(416)
<223> n = A,T,C or G

<400> 210
gggcgaattg gagctccccg cggtggcggc cgaggtactc tatgttgttt tttattgtgt 60
gaaattttat tttactaata atatttntaa tatattttaa ctaattntca taaattaaga 120
gtattgtatc caaagcagcc agaatattag atgtggtcat aaaatangtt tccaaatttt 180
gtctgaataa ctaggattag aaagaagtaa ctaaaaaatg gtttggacat tcaaatttgg 240
atagaaataa aatttatttt cataagtcaa tcctaacact tgagcttcat gtaaattttc 300
caaagtcatt catattttga tcattactgt cggacccaca aatatttgga aatttttttt 360
aaattaaaaa tgttcccact taattgcttt gagctcgcta tgagttcctg gaatat 416

<210> 211
<211> 273
<212> DNA
<213> Homo sapiens

<400> 211
cgggcaggta ctcccttttg atattatact gatgaatatt tgtaggtgtt tcactataag 60
gaacagctaa ggaataattt taataaaagt gaaccagaac aaatcactca tttaaaaagt 120
aattcagaag aacagtgtgg catgatcaga cttctaattg aatagcgtaa caacagtgtt 180
tgtaattata gatttgcttg gacaaaatat tccaggaact catagcgagc tcaaagcaat 240
taagtgggaa catttttaat ttaaaaaaaa ttt 273

<210> 212

<211> 271
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(271)
<223> n = A,T,C or G

<400> 212
cgggcaggta cacacgatat accaggccct gaatcactta cggatgttat ctataaaatt 60
caaacgttcc aacaagaggg gtattatttt cccatttttc tgatgaagaa actgaggctt 120
tggagtatta ggtgtaactt tcccaagctc ttacagttaa taagtattag agctggcctt 180
caaacccagg tgtctactcc aaaggactgt gaaaggatga agatgatngt gatcgtaaca 240
aatggtggta acaataaaaa caatgggatg t 271

<210> 213
<211> 308
<212> DNA
<213> Homo sapiens

<400> 213
ttagggcgaa ttggagctcc ccgcggtggc ggccgcccgg gcacggtact gaataattca 60
agaaattgtt ctcatggtat cttctttgga tgctggcagt attattttat taaaacaatt 120
taatactgga tgtagaacaa ttcagctgta aaatgctgag aaaaatcttt tatattcact 180
ctattcctcc cgtgagatgt aagagtgttc aactgttttc aacgtcagtt aaaactactc 240
tggcccataa gcataaatat gcaaggcaat acagatcatg tgacagtttg cattcttggc 300
ttgtacct 308

<210> 214
<211> 273
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(273)
<223> n = A,T,C or G

<400> 214
aggnncaagc caagaatgca aactgtcaca tgatctgtat tgccttgcat atttatgctt 60
atgggccaga gtagttttaa ctgacgttga aaacagttga acactcttac atctcacggg 120
aggaatagag tgaatataaa agatttttct cagcatttta cagctgaatt gttctacatc 180
cagtattaaa ttgttttaat aaaataatac tgccagcatc caaagaagat ccatgagaac 240
aatttctgaa ttattcaagt acctgnccgg gcg 273

<210> 215
<211> 327
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(327)
<223> n = A,T,C or G

<400> 215
ccgcggtggc ggccgcccgg ncaggttgac tcttcaccca tattataaaa tataatccaa 60
gccagattag tcaacatcca taagatgaat ccaagctgaa ctgggcctan attattgagt 120
tcaggttgga tcacatccct atttattaat aaacttagga aagaaggcct tacagaccat 180
cagttagctg gagctaatag aacctacact tctaaagttc ggcctagaat caatgtggcc 240

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ttaaaagnct ggaaaagaag caggaaaaga acagtnntct tcaataattt gtccaccctg 300
tcccttggag aaaatttaag aatttgg                                    327

<210> 216
<211> 340
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(340)
<223> n = A,T,C or G

<400> 216
aggnntactt ttagaataat tnatatctga taaattgaat acatcaggat ttgatgtatt 60
aagagcaatt tcaaaagata ataaaaataa gctatagcat atgtnctgaa aactatttac 120
aataccattt aaatatttta ttcatatcta tccgaatatt gaccaggaca ctaatgccac 180
actgcagagt taataatctg tgcattttct ttaccgtaat ggacagagta tgctttctta 240
gctgcctgat tcacatttct ctaaaaatgc tttatcggtt aaagctttca accagcttaa 300
aaataatgcc tctcccatgt ctccatgagt ggaaaaaaag                      340

<210> 217
<211> 506
<212> DNA
<213> Homo sapiens

<400> 217
aggtgactaa agaagaataa aaatttccac tgatgattaa aaaaaatact tccataatat 60
cagcagctaa taattgcaaa aaatttaaga aaccattaaa agttagcact aaataatctt 120
taaaaatcac aaaaatgtgc acttcaaata ttatgccaga aattttgtcc aaatattcat 180
gttcagtaaa cagagacaca tagttttctt gatttgaaac tgttctgagg acttgagaaa 240
ctagagaaaa caagaaaata gcagccccac aaatttaaaa gctatcatct ctaccattag 300
catataacca tccaaaaatc tgtggaatgt ttagatttac tcatgaatga tgctcattcg 360
tagaaatatt ttgaacacca gtagtgctat caaggcccag taatgttcca agataagatt 420
gttctctagg atctagcatt tgttcaggtc gaactgggtg aactatattt gcaggttgag 480
gagtaagagt tatttttcca gaaaag                                     506

<210> 218
<211> 470
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(470)
<223> n = A,T,C or G

<400> 218
cgggcaggta cctgtgttat gcctgtgctc cagcagctca ttgcctcccg catgaactct 60
tctaggtttg gaaattccac tttaaatatg aggaaatgtc tgctcatgta gatgatatga 120
cttgccctag aacacaaatc tagaaaatgc agcaaccaga attttaccca agtttgttga 180
acaccgaaat ctagcctctt cccatgactg gccccctctc tctgagcagt aatagtgagc 240
attgctggcc accagggcca cccatcctta ctagggctcc tggnccctac tgcacaaaat 300
tctgttattt gggattcaga cctctggaaa aacaaaaatg gagtttctag agttcaattg 360
tgccaaaaga caattgtcat cacatctcct cttggagaag ggaacatgtc aaggttgttt 420
gtgttcaggc aagcangagt ttccctaact cgtggggaaa agcaactgca           470

<210> 219
<211> 683
<212> DNA
<213> Homo sapiens
```

<220>
<221> misc_feature
<222> (1)...(683)
<223> n = A,T,C or G

<400> 219
anaaaacccc aagtnctttn ttgngcgngn gngntntccg natntncccn tntnccctct 60
atntctntcg ntccctcaag anantctntn tnatnggtna ataaaccgcg gggttntncc 120
ttttcganaa aattgcttga ntngngnnaa cgcgngtttn gnggngnngg ggngnccaaa 180
tnccccaatt aaatnaaagn tncnaccctt ccccacgggg ngttttatna ttggngngga 240
ggggggggnt tattcccttt tttcnttacc cttaaatctt naaggggggg gaaccttttt 300
tttttttgcng ggnnttttc cgaaaaaaag ccccgngaaa gaagggggnc ngtttttct 360
nttnncaaaa aataatttnc nagttggnga aaaaaaaaaa ttctnnaact tctnaaaaaa 420
tttaaatttt ttnaaccctt tgggnccntt ggggttnttt aaaggcgaaa gngaaaaaat 480
aatttngggn naagantttn gggaaannct cccnccttn aacccaaang nnnaatttgg 540
ggnaatttna aggggggaa anttgggttt tnttacnaaa ttnggggntg gggggtggg 600
gattaaattt gngcccaaat ncccgggggg gggggtttaa agngttcccc cgggagggat 660
taaanacccg ggtntccggg ggg 683

<210> 220
<211> 604
<212> DNA
<213> Homo sapiens

<400> 220
ccgggcaggt actcatctga tgacaaaatc tttcaaacag aaacaaaaca atatatggac 60
cagcccaaag tttatcagtc ggaagccaag acgatgttac agaatgtatc tgctgaagta 120
tgtgttccag taactctggt tccagttcag atgcctgaca ctccgagtga cctagtgcgt 180
catactacca cactcccacc atcttctcat gagattctgt caccacagcc acagtcaact 240
gattatccac gagcagcgga tttagctttt ctggaaaaat atactcttac tcctcaacct 300
gcaaatatag ttcacccagt tcgacctgaa caaatgctag atcctagaga acaatcttat 360
cttggaacat tactgggcct tgatagcact actggtgttc aaaatatttc tacgaatgag 420
catcattcat gagtaaatct aaacattcca cagatttttg gatggttata tgctaatggt 480
agagatgata gcttttaaat ttgtggggct gctattttct tgttttctct agtttctcaa 540
gtcctcagaa cagtttcaaa tcaagaaaac tatgtggtct ctgtttactg gacatgaata 600
tttg 604

<210> 221
<211> 511
<212> DNA
<213> Homo sapiens

<400> 221
aggtgactaa agaagaataa aaatttccac tgatgattaa aaaaatactt ccataatatc 60
agcagctaat aattgcaaaa aatttaagaa accattaaaa gttagcacta aataatcttt 120
aaaaatcaca aaaatgtgca cttcaaatat tatgccagaa attttgtcca aatattcatg 180
ttcagtaaac agagacacat agttttcttg atttgaaact gttctgagga cttgagaaac 240
tagagaaaac aagaaaatag cagccccaca aatttaaaag ctatcatctc taccattagc 300
atataaccat ccaaaaatct gtggaatgtt tagatttact catgaatgat gctcattcgt 360
agaaatattt tgaacaccag tagtgctatc aaggcccagt aatgttccaa gataagattg 420
ttctctagga tctagcattt gttcaggtcg aactgggtga actatatttg caggttgagg 480
agtaagagta tatttttcca gaaaagctaa a 511

<210> 222
<211> 152
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(152)
<223> n = A,T,C or G

<400> 222
gcggcncgag ngtaccattt ctaggcttct taaagcggac aggatatgca catgtctgtc 60
ctccataccg tgttcattat gttctaaaag ttggatccca tcagtttgtt ttatagaatg 120
aagacaggtg tgtgtgtgtg tgtgtgtgtg tg 152

<210> 223
<211> 333
<212> DNA
<213> Homo sapiens

<400> 223
cgggcagatg catacataga ggtatggttg aaaaagatga acagttgtag atacccagga 60
tatcagatgc aggaacccaa gcattggcca atgagactgc agagctgggg tcacagtgga 120
aattatttgc aaaggtcttg aaagtctctc tctctctctc tctctctctc tctctctgac 180
acacacacac acacacacac acacacacac acacctgtct tcattctata aaacaaactg 240
atgggatcca actttagaa cataatgaac acggtatgga ggacagacat gtgcatatcc 300
tgtccgcttt aagaagccta gaaatgggta cct 333

<210> 224
<211> 692
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(692)
<223> n = A,T,C or G

<400> 224
aggtacagag agttccctta tgccccacc cactngttaa aaatgcgccg tcgggatcat 60
tacgtcctgc attggtgtgg gtgtttgtta cagttgacag gccagtgtag acatatgatt 120
attagcttag gtccgcagct cacacgaggg ttcctgcccg tgctgtcctc tctgtgggtt 180
tggacaaatg tccgtgccgt gcacccaccg ctgtgtatca ccganaaagc cgccgccctg 240
gaaatcctct atgccccacc tgtttaccct gnaccctccc gnannaactn tgacanccac 300
tgatnctttg actgnctcat ttggcatgtt ttaaaatttt atacagggng cagctgtatt 360
ctatgtcttn ttattaatgt cttattntag aacatgtgtn atgttttcaa gatttactcc 420
tggactttna gnccagtcct tttacttgnt gnatggcatt ntgctatgag tatatgacga 480
tgattggatg ccttccgnta tcgnatagac actcaanggg agtgggagag agtcttgccc 540
ttacgggatt ctttgtacct gccccgggcg gnccgntntt agaactagtn ggatcccccg 600
gggctgcaan naatttggat attnaaagct ttattcgata cccgttcgac cttngaaggg 660
gggggncccg ggaaccccan ntttttgttc cc 692

<210> 225
<211> 300
<212> DNA
<213> Homo sapiens

<400> 225
cgggcaggta caagaatgcc gtaagggcag actctctccc actcccactg agtgctatcg 60
atagcggaag gcatcaatca tcgtcatata ctcatagcag aatgccatac aacaagtaaa 120
aggactggac tgaaagtcca ggagtaaatc ttgaaaacat gacacatgtt ctagaataag 180
acattaataa gaagacatag aatacagctg cacctgtata aaattttaaa acatgccaaa 240
tgagacagtc aaaggatcag tggttgtcag agttcaacgg gaggggtgca gggtaaacag 300

<210> 226
<211> 591
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(591)
<223> n = A,T,C or G

<400> 226
gggangcttc caacccgcng ggattgggcc gggcccggcc cgggggccag gggtgaccaa 60
agncctcaan ntaccaangc cttttttttt ttttttcctt tggnagnaca agaagtcctc 120
cgnttctggt cctcccccca agggacttgg gaagtttgcc anggggggc cgttgaatct 180
tcnggggntt cacttgcnaa agccttnttg ccttcccggg gggttcattg ccaattctcc 240
tggccttaaa agccccttcc ccgnaaagtt aagncttggg gnnacctaac caaggggtng 300
gcccccgnt cnaaacccct tcgggggccc cggctttntt taaaaaaaac cttaaggngg 360
gggaattccc cccccccggg gggcntttgg caaagngaaa aaattttccc ggaatttnat 420
ttnnaaaagg cccttttaat ttncggaatt tanccccggg gtnccggnaa ccccctttcc 480
gggaaggggg gggggggggg ggnccccccg ggggtnaacc ccccaaaggc nttttttttt 540
tgggtttttc cccccctttt tttnaaaggt ngggaanggg ggggttttna a 591

<210> 227
<211> 112
<212> DNA
<213> Homo sapiens

<400> 227
atagggcgaa ttggagctcc ccgcggtggc ggccgaggta cacagaaaag cggttaccag 60
cacaggactc tgggttcctg tcctacctct tgcacttggg caaaggactt aa 112

<210> 228
<211> 521
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(521)
<223> n = A,T,C or G

<400> 228
gcgaattgga gctcnccgcg gtggcggccc gcccgggcag gtacagactc tctcccatgc 60
tggattaaac ttcttaaata cttggaacat ctgggccagg ccttcagtgt cctcctnggc 120
ngggatggca aagtagactg ctcgggcaag atgaccctcc agctgcaccc gaggtccatc 180
caccaggaag gtatataaga ccttacccct tgggttatag gtccggtgga taaataagat 240
ctcaggggaa atggtcaaag acactttgca taaagcagct ctggtagttg aaggtatcta 300
actgggcagt cttgttaacc tggtgcagca gcataggtgg gcttgagtcc ttaatcagga 360
gcccattcag cattgtcagg gccatgggag agatgagagc tgtccaaatg ccaaggtcaa 420
aatactttct ttgcagggca gctgaccacg ggctttgag tctttcaagc atcaaataaa 480
gttgaggctg gaggctagac aatcattccc agatcttttt t 521

<210> 229
<211> 539
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(539)
<223> n = A,T,C or G

<400> 229
aggtgcgacg gagcctggct gtgggcccat ctttggaaaa aagatctggg aatgattgtc 60

tagcctccag cctcaactta cttgatgctt gagagactca aagccccgtg gtcagctgcc 120
ctgcaaagaa agtattttga ccttggcatt tggacagctc tcatctctcc catggccctg 180
acaatgctga atgggctcct gattaaggac tcaagcccac ctatgctgct gcaccaggtt 240
aacaagactg cccagttaga taccttcaac taccagagct gctttatgca aagtgtcttt 300
gaccatttcc ctgagatctt atttatccac cggacctata acccaagggg taaggtctta 360
tataccttcc tggtggatgg acctcgggtg cagctggagg gtcatcttgc ccgagcagtc 420
tactttgcca tccctgccaa ggaggacact gaaggcctgg cccagatgtt ccaagtattt 480
aagaagttta atccagcatg ggagagaagt ctgtaccttg cccgggcngn ccgccaccg 539

<210> 230
<211> 214
<212> DNA
<213> Homo sapiens

<400> 230
ccgcggtggc ggccgaggta cattttctct gctgcaaccc aggatttggg cttatgatca 60
ggaggaatgg tgattccata ttcccagcct ttctcatcca ccactcgatt tatgtcataa 120
gaccatgcat catcttccca ttcccaacct ggaggacaag tcaactcgct gggtgatgct 180
gctttatcgc cgttcgcatc cgtgtaggtg tcct 214

<210> 231
<211> 207
<212> DNA
<213> Homo sapiens

<400> 231
aggacaccta cacggatgcg aacggcgata aagcagcatc acccagcgag ttgacttgtc 60
ctccaggttg ggaatgggaa gatgatgcat ggtcttatga cataaatcga gtggtggatg 120
agaaaggctg ggaatatgga atcaccattc ctcctgatca taagcccaaa tcctgggttg 180
cagcagagaa aatgtacctc ggccgcc 207

<210> 232
<211> 490
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(490)
<223> n = A,T,C or G

<400> 232
nccacgcgtc cgagctcgcc gccaaccatg aaccgatgcc cccgcaggtg ccggagcccg 60
ctggggcagg cagcgcgatc cctctaccag ctggtgactg ggtcgctgtc cccagacagc 120
gtggacgatg aatttgaatt gtccaccgtg tgtcaccggc ctgagggtct ggagcagctg 180
caggagcaaa ccaaattcac gcgcaaggag ttgcaggtcc tgtaccgggg cttcaagaac 240
gaatgtccca gcggaattgt caatgaggag aacttcaagc agatttactc ccagttcttt 300
cctcaaggag actccagcac ctatgccact ttctcttca atgcctttga caccaaccat 360
gatggctcgg tcagttttga ggactttgtg gctggtttgt ccgtgattct tcggggaact 420
gtagatgaca ggcttaattg ggccttcaac ctgtatgacc ttaacaaagg acggctgcat 480
taccaaggag 490

<210> 233
<211> 218
<212> DNA
<213> Homo sapiens

<400> 233
ccgcggtggc ggccgaggac acctacacgg atgcgaacgg cgataaagca gcatcgccca 60
gcgagttgac ttgtcctcca ggttgggaat gggaagatga tgcatggtct tatgacataa 120
atcgagtggt ggatgagaaa ggctgggaat atggaatcac cattcctcct gatcataagc 180

ccaaatcctg ggttgcagca gagaaaatgt acctcggc 218

<210> 234
<211> 242
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(242)
<223> n = A,T,C or G

<400> 234
ccgcggtggc ggccggcttc cagtcgcccc cggggtagca ggctctcgtt ctgatagact 60
tcatcagtga actccgngtg acctgcatct gnctcagtca gcaagcttct ttcaggatca 120
actatccact ctccttccca ttcccagcct tttggaggca gaaaaaattc cctcttgagt 180
tttatttttc ccgtgacatc agaaaactta tgacgtccta ctaatccana agtacctgnc 240
cg 242

<210> 235
<211> 261
<212> DNA
<213> Homo sapiens

<400> 235
tagggcgaat tggagctccc cgcggtggcg gccggcttcc agtcgccccc ggggtatgcg 60
gctctcgttc tgatagactt catcagtgaa ctccgtgtga cctgcatctg cctcagtcag 120
caagcttctt tcaggatcaa ctatccactc tccttcccat tcccagcctt ttggaggcag 180
aaaaaattcc ctcttgagtt ttatttttcc cgtgacatca gaaaacttat gacgtcctac 240
taatccagaa gtacctgccc g 261

<210> 236
<211> 226
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(226)
<223> n = A,T,C or G

<400> 236
cgggcaggta cttctggatt agtaggacgt cataagtttt ctgatgtcac gggaaaaata 60
aaactcanga gggaattttt tctgcctcca aaaggctggg aatgggaagg agagtggata 120
gttgatcctg aaagaagctt gctgactgag gcagatgcag gtcacacgga gttcactgat 180
gaagtctatc agaacgagag ccgctncccc gggggcgact ggaagc 226

<210> 237
<211> 810
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(810)
<223> n = A,T,C or G

<400> 237
ttttttttn ttgatanctt acccatgctc caggagncng accgtccaan atcttaanac 60
cncactttca accttnaaga anngggggaa aaaccanann aagggggctt gggcgatgaa 120
ccaccgggag ancacncacn cacacatnac gnaagggntc ccgnaaccgt gctganttcc 180

ggaattnata ggggcctttt gtgattgaat tactggtaca nttttgccca ttgggcccag 240
ngccgcccng gggggangtg ntcaatcctc caacctttag gntttattgc cttgaagggg 300
ggaaggnccg nngggcaccg ggnaagnngg ataaaaccnt ttgggttcaa attggggccc 360
tttttgaatt tnaataantt naagtngcct ttaanaaaaa caacaattta naaanaacag 420
ggnttntttt tggnnaattt actttcaana aantaattta ataagaaatt tggggttncc 480
gccntttttt ttaagaattt tgggggcccc taaaaaaant tcaanttnaa tccctttttaa 540
aaaaacnaaa acnaagatcc caagggngnc cacctccttt ttttnttngg gncccccccct 600
ttaccgccca aagggggnaa acccaaagga aagcccgccc aaattttttt taaaaaaaaa 660
naaaaaaaat ttncccaaaa tttgnttnnt tttttttnaa agggggnccc aaaaatttat 720
ttnaanccccc naaagggngg ggnggccccn aaangggggac ccnaaaggnt accccntttt 780
naaaagaaag ggcattttna aattttgggg 810

<210> 238
<211> 200
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(200)
<223> n = A,T,C or G

<400> 238
aggtacattt tctctgctgc aacccaggat ttgggcttat gatcaggagg aatggtgatt 60
ccatattccc agcctttctc atccaccact cganntatgt cagnagacca tgcatcatct 120
tcccattccc aacctggagg acaaagtcaa ctcgctgggt gatgctgctt tatcgccgtt 180
cgcatccgtg taggtgtcct 200

<210> 239
<211> 341
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(341)
<223> n = A,T,C or G

<400> 239
aggtacattt tctctgctgc aacccaggat ttgggcttat gatcaggagg aatggtgatt 60
ccatattccc agcctttctc atccaccact cgatttatgt cataagacca tgcatcatct 120
tcccattccc aacctgggag gnacaagtca actcgctggg tgatgctgct ttatcgccgt 180
tcgcatcncg tgtagggtgt tcctcggccg ccacccgccg gtgggaagct cccaatttcg 240
ccctatantg gaggtcggta tttacgcgcg gctcacctgg ccgtcgtttt accaacgtcg 300
tgactggggg aaaaaccctg gcggtttacc caaccttaaa t 341

<210> 240
<211> 234
<212> DNA
<213> Homo sapiens

<400> 240
atagggcgaa ttggagctcc ccgcggtggc ggccgaggac acctacacgg atgcgaacgg 60
cgataaagca gcatcaccca gcgagttgac ttgtcctcca ggttgggaat gggaagatga 120
tgcatggtct tatgacataa atcgagtggt ggatgagaaa ggctgggaat atggaatcac 180
cattcctcct gatcataagc ccaaatcctg ggttgcagca gagaaaatgt acct 234

<210> 241
<211> 199
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(199)
<223> n = A,T,C or G

<400> 241
aggtacattt tctctgctgc aacccangat ttgggcttat gatcaggagg aatggtgatt 60
ccatattccc agcctttctc atccaccact cgatttatgt cataagacca tgcatcatct 120
tcccattccc aacctggagg acaagtcaac tcgctgggtg atgctgcttt atcgccgttc 180
gcatccgtgt aggtgtcct 199

<210> 242
<211> 199
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(199)
<223> n = A,T,C or G

<400> 242
aggtacattt tctctgctgc aacccaggat ttgggcttat gatcaggagg aatggtgatt 60
ccatattccc agnctttctc atccaccact cgatttatgt cataagacca tgcatcatct 120
tcccattccc aacctggagg acaagtcaac tcgctgggtg atgctgcttt atcgccgttc 180
gcatccgtgt aggtgtcct 199

<210> 243
<211> 223
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(223)
<223> n = A,T,C or G

<400> 243
gagctccccc gcggtggcgg cccgaggtac attttctctg ctgcaaccca ggatttgggc 60
ttatgatcag gaggaatggt gattccatat tcccagcctt tctcatccac cactcgattt 120
atgtnataag accatgcatc atcttcccat tcccaacctg gaggacaagt caactcgctg 180
ggtgatgctg ctttatcgcc gttcgcatcc gtgtaggtgt cct 223

<210> 244
<211> 199
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(199)
<223> n = A,T,C or G

<400> 244
aggacaccta cacggatgcg aacggcgata aagcagcatc acccagcgag ttgacttgtc 60
ctccaggttg ggaatgggaa gatgatgcat ggtcttatga cataaatcga gtggtggatg 120
agaaaggctg ggaatatgga atcaccattc ctnctgatca taagcccaaa tcctgggttg 180
cagcaaagaa aatgtacct 199

<210> 245

<211> 232
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(232)
<223> n = A,T,C or G

<400> 245
agggcgaatt ggagctcccc gcggtggcgg ccgaggacac ctacacggat gcgaacggcg 60
ataaagcagc atcacccanc gagttgactt gtcctccagg ttgggaatgg gaagatgatg 120
catggtctta tgacataaat cgagtggtgg atgagaaagg ctgggaatat ggaatcacca 180
ttcctcctga tcataagccc aaatcctggg ttgcagcaga gaaaatgtac ct 232

<210> 246
<211> 200
<212> DNA
<213> Homo sapiens

<400> 246
aggtacattt tctctgctgc aacccaggat ttgggcttat gatcaggagg aatggtggat 60
tccatattcc cagcctttct catccaccac tcgatttatg tcataagacc atgcatcatc 120
ttcccattcc caacctggag gacaagtcaa ctcgctgggt gatgctgctt tatcgccgtt 180
cgcatccgtg taggtgtcct 200

<210> 247
<211> 235
<212> DNA
<213> Homo sapiens

<400> 247
cttagggcga attggagctc cccgcggtgg cggccgagga cacctacacg gatgcgaacg 60
gcgataaagc agcatcaccc agcgagttga cttgtcctcc aggttgggaa tgggaagatg 120
atgcatggtc ttatgacata aatcgagtgg tggatgagaa aggctgggaa tatggaatca 180
ccattcctcc tgatcataag cccaaatcct gggttgcagc agagaaaatg tacct 235

<210> 248
<211> 200
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(200)
<223> n = A,T,C or G

<400> 248
aggacaccta cacggatgcg aacggcgata aagcagcatc acccagcgag ttgacttgtc 60
ctccangttg ggaaatggga agatgatgca tggtcttatg acataaatcg agtggtggat 120
gagaaaggct gggaatatgg aatcaccatt cctcctgatc ataagcccaa atcctgggtt 180
gcagcagaga aaatgtacct 200

<210> 249
<211> 199
<212> DNA
<213> Homo sapiens

<400> 249
aggtacattt tctctgctgc aacccaggat ttgggcttat gatcaggagg aatggtgatt 60
ccatattccc agcctttctc atccaccact cgatttatgt cataagacca tgcatcatct 120

tcccattccc aacctggagg acaagtcaac tcgctgggtg atgctgcttt atcgccgttc 180
gcatccgtgt aggtgtcct 199

<210> 250
<211> 209
<212> DNA
<213> Homo sapiens

<400> 250
aggacaccta cacggatgcg aacggcgata aagcagcatc acccagcgag ttgacttgtc 60
ctccaggttg ggaatgggaa gatgatgcat ggtcttatga cataaatcga gtggtggatg 120
agaaaggctg ggaatatgga atcaccattc ctcctgatca taagcccaaa tcctgggttg 180
cagcagagaa aatgtacctc ggccgccac 209

<210> 251
<211> 390
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(390)
<223> n = A,T,C or G

<400> 251
cgggcaggta ctagaccagt ggagaatttg acaccttttc tttttgtaaa agtttatggt 60
attataccga tagaccaaaa cagcatgtgt aagaggcant atctgcacta attctcaaca 120
tgctaaacat taactacaat tcactgttgt gagaatattt ctngtcacag caaaaanaca 180
tttctttttt cttggnaaca cagnttttaa atanaatttt taanaaaatn ggtaaaaagg 240
ttntttttag ggaattgttt gtntcanttc aatgtctaag aataaatttt ttntttnaaa 300
attaaaaaac tttttaaaag nngggggctt cccaantttt gggggggncn nacaaaaatt 360
tnnnananaa aaaaaaaaaa nttttttttt 390

<210> 252
<211> 236
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(236)
<223> n = A,T,C or G

<400> 252
agggcgaatt ggagctcccc gcggtggcgg ccgaggacac ctacacggat gcgaacggcg 60
ataaagcagc atcacccagc gagttgactt gtcctccagg ttgggaatgg gaagatgatg 120
catggtctta tgacataaat cgagtggtgg atganaaagg ctgggaatat ggaatcacca 180
ttcctcctga tcataagccc aaatcctggg ttgcagcaga gaaaatgtac ctcggc 236

<210> 253
<211> 156
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(156)
<223> n = A,T,C or G

<400> 253
attggagctc cccgcggtgg cggccgaggt accanaatcc acaacccccca gtcttttgca 60

gttcctgtga tatgcatcat gatgttgaaa cagtcccaaa ttccttctgg cttctgtcag 120
tgccgtgtaa agtgntgatg agaganattt atttat 156

<210> 254
<211> 240
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(240)
<223> n = A,T,C or G

<400> 254
ctatagggcg aattggagct cnccgcggtg gcggccgagg acacctacac ggatgcgaac 60
ggcgataaag cagcatcacc cagcgagttg acttgtcctc caggttggga atgggaagat 120
gatgcatggt cttatgacat aaatcgagtg gtggatgaga aaggctggga atatggaatc 180
accattcctc ctgatcataa gcccaaatcc tgggttgcag caagagaaaa tgtacctcgg 240

<210> 255
<211> 243
<212> DNA
<213> Homo sapiens

<400> 255
cccttagcgt ggtcgcggcc cgaggtacta ttagaaacaa aattgagcaa gttaagttaa 60
aagtttgctg actttgtatc aacactatag aagatgagcc accttgttaa tttggaatat 120
ttgctctgaa aagaacatgt tagttacacc ttaatggtgt taatggaggt ggggattgag 180
aaaagtgttc acattagtgt tggaatgtag gtaattgtcc tgcccgggcg gccgctcgaa 240
agg 243

<210> 256
<211> 355
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

<400> 256
attggagctc cccgcggtgg cggccgcccg ggcaggtatt cggtgcttcc caacacctcc 60
ttattggaaa acagccaagg agatggtggc taactggagg catcacccag cagtggtgga 120
gcagtggagc aaggtcattt gtgcactcac ttccagattg ctacgcttta catatggtcc 180
ttcatttcct gcatttaaag ttcccgatga agatgccagt ctgatccctc cagaaatgga 240
taatgagtgt gntgcacang acatggtttc gctttttaca catgttaagt aatnctgtgg 300
atttgagtaa cccagctatt ataagctcta ctcccaaatt tcaggaacag ttctt 355

<210> 257
<211> 293
<212> DNA
<213> Homo sapiens

<400> 257
gaggtacaaa ttcccaagcc tgtttattaa ccaattttac ccaagaccag gaactcctgc 60
tgcaaaaatg gaacaagttc cagcacaagt gattggtgaa agacaacaag tgttagtaac 120
agaagaatct tttgattcca agttttatgt tgcacacaat caattctatg agcaggtttt 180
agtgccaaag aaccctgcgt tcatggggaa gatggttgaa gtggacatct atgaatcagg 240
caaacatttt atgaaagggc agccagtatc tgatgccaaa gtgtacctgc ccg 293

<210> 258
<211> 451
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(451)
<223> n = A,T,C or G

<400> 258
acttagggcg aattggagct ccccgcggtg gcggcccgag gtacatccca gaatcgtttt 60
ggatctgtta agggttttta ttagaatgat taaataggct tttgcagcat taactttaca 120
gtagttacca gaaaagacta tgctacaaga accaaaattg aagtaagaag aaaaagactg 180
aaatgatatg attctaaatg aaaaaaatga agaagtggaa tagtttctcc acaggcataa 240
gaggcaaagc attgtttcag aagtggactg gcacctcacc tgagatactc aagactggca 300
acatgggtct acattctttg ttaccacaga ttcccttgtg tccggagaga ttccctagct 360
ctaatgacag atttttgggg gggtaatgag gctatgagaa gattgaggat ctaggtacct 420
gcccgggcgg ncgctctaga actaggtgga t 451

<210> 259
<211> 373
<212> DNA
<213> Homo sapiens

<400> 259
cgggcaggta cctagatcct caatcttctc atagcctcat taccccccaa aaaatctgtc 60
attagagcta gggaatttct cccggacaca agggaatctg tggtaacaaa gaatgtagac 120
ccatgttgcc agtcttgagt atctcaggtg aggtgccagt ccacttctga aacaatgctt 180
tgcctcttat gcctgtggag aaactattcc acttcttcat ttttttcatt tagaatcata 240
tcatttcagt ctttttcttc ttacttcaat tttggttctt gtagcatagt cttttctggt 300
aactactgta aagttaatgc tgcaaaagcc tatttaatca ttctaataaa aaccttaaca 360
gatccaaaac gat 373

<210> 260
<211> 268
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(268)
<223> n = A,T,C or G

<400> 260
cgggcaggta ccctccaatg gaaaaggata actccgatat gaggagtccc ccttccttct 60
nctaaacagt cttataaaaa gcattccaac ttnnaacang atgtttggaa catgcccaac 120
tttgttggtg tatcttactg gataaattct cacatttggc ttccaataaa ctttatcaa 180
tttaaaaaaa aaaaagaata aaaaaaaaan aaanaaaaaa aaaaaaaaaa aaaaaaaaaa 240
aaaaatgntt tgncaaaaaa aaaaaaaa 268

<210> 261
<211> 222
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(222)
<223> n = A,T,C or G

<400> 261
cgggcaggta ctggctgttg accaccagac acctgaccgc aaatatcttt tcttgtattc 60
ccatatttct agacaaatga ttttttgtaa gacaataaat ttattcatta tagatatttg 120
cgcctgctct gtttacttga agaaaaaagc acccgtggag aataaagaga cctcattntc 180
caaaanaaaa aaataaaaaa naaaaaaaaa ggnttgtacc tn 222

<210> 262
<211> 544
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(544)
<223> n = A,T,C or G

<400> 262
cgggcaggta cacaacttca acagattttc tgtcatattc tcaccagcac atctgaatga 60
ggctttgngt tttccttgct ctcttgcatg gtnccttttc aactcatggg ccacaggnga 120
ctcttanaga tttatgccaa aattgcatac aattggtttt nngaatnana actggtcaat 180
ttttctgcct atgngggcta ctttcagttt ngttctnaat naacattttn gactttaana 240
agagcctnca tttgcccctt tntttttttaa ggntttaaaa natctttnaa caccggggnc 300
tttnannttt tganccccccc cctaanaaaa aaaaggaaac ttttaaaaaa gngggnattg 360
gggncccccg gnaaccnttn tttttgnggg ggaggttttt tttttttatt gggaaaaaaa 420
tttntcntgg gggcnntttt aaaaaatttt nnaantttna aaaaannaan attttnnccc 480
nccngcgggg gggggggttt tttttggnaa naaaatanat tggggngggg gncccccccc 540
cccc 544

<210> 263
<211> 456
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(456)
<223> n = A,T,C or G

<400> 263
aggttttttt tttttttttt tttttttttgt ttttttttat aatgatatgc aaatctttta 60
ctttgatgtg tgaaacttnt gctatctcaa attgacagtn tnattntttt cacgctatga 120
tcatccgttt aagtaaatgt tcccataatt ttganggtcc acnatacaaa aagtgtnttt 180
ntatggggaa agcttaantc cttgggcctg ggattttcca tcatggaaga aaggtcgttc 240
nangggccan aattanttnt taaacnttca aaaagntncc cttgctcccg ggggcgggcn 300
cgcctnttaa gcaacntaag gttgngnatc cccctgnggg cttggctaag tgnaaatttc 360
cggattantc canaagcctt tatccggatt acccgnccna cccttcgnaa gngnggggng 420
nggcnccccgn gtncccccaa gcatttttcg gtttcc 456

<210> 264
<211> 605
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(605)
<223> n = A,T,C or G

<400> 264
cgggcacggt acaaaagcac cacgtgatta ttgctctaga aaaactgcgt gaaaaaattc 60

aaatatnncn accaaggtaa aaaaccacca ccaaanattg cacacgcgga ctaanatttt 120
aaaaagcaag gtncatnggg aatgcttgaa atcaaatnct ttaccaccac caggntttnc 180
anattatttt tanacctnga ataatnttaa ttttctacct tgganggga tnggattgtt 240
aaaattttcc caaaaaaaag ccattggacn tattggagga accggaataa aaaaaatagc 300
tcccatcccc ttnaattatt attttatcng ggattgccca aacctaggtt aggaagnnnc 360
ctnaaaaaaa aaanttaagc cntttctacc aaaaaatacn ttttggttta aaaaaaattt 420
gnctttttaa aaaaaggtna ggccccccaa ngaaggaatc cccttnaaaa nattcnancc 480
cccaaatttt tttttnattt naccaaattn aaattcctct cccctttttn ttccttacca 540
ngaatncnan ttnttncntt gngggccctt ttgnnaaaaa annaaaaagg gaaaaaaaaa 600
aaaaa 605

<210> 265
<211> 487
<212> DNA
<213> Homo sapiens

<400> 265
ccgcggtggc ggccgcccgg gcaggtacct ttagtagaga cggggttata tcatgttgcc 60
caggctggtc tcaaactcct gacttcaggc aatccaccca cctcggcctc ccaaagtgct 120
gggattacag gcttgagccg ctgcgcctgg cccaaactga tgtcttatcc ttcttagtgc 180
ctcacaccag atcctgttca gacatgttat aacaaattag tatgagttta tttttgcaca 240
atttttgaca tctatgcata gtttttcaca atacacattt tccttaaagg gtttgaggac 300
ccttttgtgt gactgcagac gcttctacag tctgtgactt gtcttctcct tttcctaaag 360
gtggctttga tggtctttta aaattttgat tgaagaacaa cttaccaatt taccagtttg 420
ggttaatttt ggggttaacg ctttttgtac ctcggccgct ctagaactag tgggatcccc 480
cgggctg 487

<210> 266
<211> 335
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(335)
<223> n = A,T,C or G

<400> 266
acttagggcg aattggagct ccccgcggtg gcggccgagg tacctgaatg ctaaactgcc 60
tggctcccag ctttttcatt aaacttttca gggtcttggt ttctttatct gtaaaatgac 120
agagttggac cagttaactt taatggccat ccttttacac cacacaagtt gataaaattt 180
atctgttcag caaagagatt gaacaaaaaa gcacgttagt aatatgaaga caggaaaacn 240
aatgaaagtc taacacataa ctcatattga tttactttat ttntgttaga ttttacactc 300
tgaaaatttc acctcattta gtttgtacct gcccg 335

<210> 267
<211> 369
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(369)
<223> n = A,T,C or G

<400> 267
cgggcaggta ccgntccaaa ctcatcctct tccccaggaa gccctcggcc cccaagaagg 60
gagacagttc tngcntgaag aaactgaaac tggccaccca gctgacccgg gaccggtcat 120
gcccgtccgg aacgttntat aatnaaggag aaaagctccg agtcatcact tgagtgaagg 180
agnaagnaat tttcaaaagc cttncggctt aggttcttcc cntattgggc ncccgttggc 240
ccaaaccggc cccnggggct tcttttnggg cnataaccgg gggccannaa aaaggaagnc 300

ccaannnngga aagncccccgc caanaaaaca anggaattnt ttttgtaaaa aanggaaaaa 360
aaaaattaa 369

<210> 268
<211> 593
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(593)
<223> n = A,T,C or G

<400> 268
aggtacaaca tgctgattct tttcaacgtt ttattttctt tatttagctt tgttgccaaa 60
gcttcagcan nttnncgaca agtcttctct atttcaagat ggttctgcat gaaattaact 120
tcctctatga ccatgtgaga aattttctga aattctccca gttttttaac cggcttcatc 180
tcgttcttgc ctaattttgt cacacttctc ctttgttttc tggttctctg ctctaaggtc 240
ttcatattcg cctattgcnt tgctccttca gacttggtaa tgaagcntgc agctgcttct 300
cttcgtcccg agcctgtttc attttaaggc cgnggtnggg ngcncgggnn atanaaaagg 360
ngaaaagaag gggagtcggg cgccggntgc caccaccagg taggtagggg gggnaagaaa 420
aaaagccata gtatgcccgg ntgggctttg cggnaccctg gcccggggcc gggacgctct 480
angaacctag gtgggattcc cccccggngc tgcanggaaa tttctaatat cnaagcctta 540
atncgatacc cgttnacctt cgaagggggg ggcccgggta nccccaagct ttt 593

<210> 269
<211> 642
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(642)
<223> n = A,T,C or G

<400> 269
aggtacaaac ttagaagaaa attggaagat agaaacaaga tagaaaatga aaatattgtc 60
aagagtttca gatagaaaag gaaaaacaag ctaagacaag tattggagaa gtatagaaga 120
tagaaaaata taaagccaaa aattggataa aatagcactg aaaaaatgag gaaattattg 180
gtaaccaatt tattttaaaa gcccatcaat ttaatttctg gtggtgcaga agttagaagg 240
taaaagnctt gagaaagatg aggggtgttt accgntagga ccaggaacca atttaggaag 300
aaatacnttg aaggctagga agggggaagg tttgggttta aaaaaattca ncattcaaaa 360
anaggcttac ntaaaaaagg gacctnggtg gtaattttta aaaaaaaaaa cttaaagggc 420
angaagggct tttgngaaag gaggttnaga aaggaaattt ggggaaaggg cccttttaaaa 480
atattaggta gctttaagtt ttgaaaaaaa tgtngaaagg gacnttttcg taaaccggga 540
aggttaaatt naaaggaatc aaagaagtaa ttttacccaa actttaatgg ttttttgcca 600
ttnggacctt ttgnagttta aagaatttat tttttttaaa at 642

<210> 270
<211> 385
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(385)
<223> n = A,T,C or G

<400> 270
ccgcggtggc ggccgcccgg gcaggtactt attcttcagg gttactgagt cggcacctat 60
gacagctaag agagctttct taaagactgn ctcagtgtct tcttggcttt tggcaccttc 120

actccactct gcccaggaaa tccacaatgg cagacaaacc tggggtttca ggtgcacaaa 180
ggcttcttca aaaagcatgg ctatgtcagg gctctttgac tcgatcagca cctgcagctt 240
cagctgccac attgtcccag agtctctaaa caattcagtt ccagctactg ccacttccag 300
agcttccctc aggaagttat aacacaagca accgaaacac tcaactgctt gtattggcat 360
tctgacagaa gcttcagttc atgtg 385

<210> 271
<211> 375
<212> DNA
<213> Homo sapiens

<400> 271
ccgcggtggc ggccgcccgg gcaggtactt tagtatgatg agggcaaagc tttcaccgta 60
atgaaaaggc aaatgggagg tctctgataa gttggaatca tcatagcaaa aaaagagata 120
cctaccagaa aatttgcatt aatatctata acctcatttg taaaaaaaat cattaagttt 180
ataaactatt ttaaaaataa aacgaataca tatgtaatat gaatcatatg ccaaattata 240
ttctatagtc ataagtgcta ttaataaata catttgattc atgctacaag agaaagaatt 300
gagacaattt cacatttcag aattcctgag tcttatcaga gaaaaacaag tacctcggcc 360
gctctagaac tagtg 375

<210> 272
<211> 271
<212> DNA
<213> Homo sapiens

<400> 272
aggtacacac taagataaag gatgatcttg aagaccttat agttaattgg gatgagagca 60
aaagcattgg tgacattttt ctgaaatatt caaaagattt ggtaaaaacc taccctccct 120
ttgtaaactt ctttgaaatg agcaaggaaa caattattaa atgtgaaaaa cagaaaccaa 180
gatttcatgc ttttctcaag ataaaccaag caaaaccaga atgtggacgg cagagccttg 240
ttgaacttct tatccgacca gtacctgccc g 271

<210> 273
<211> 784
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(784)
<223> n = A,T,C or G

<400> 273
cnaccttatt aggggggcc gnaaaatatg ggggnaaaac ctacacaacc accgnncggg 60
atggggaccg tgacaccgna agtgntaacc attggagacc acacacctat acaatattgg 120
gatattgcta gcccaagana tctatacacc ttcgggtngg gggggaccaa tgngccacaa 180
attgggggg gngggccnag gannaaaacc accccaagaa aaaccattat tacattgggg 240
ggattgccgg ggggcccact tcnaattaan ggctcttacc ttngtttggg atnnggnggg 300
gtnaccaccn ccgaaccgaa ccgcnaacca ttntnatcaa attnggggtt atttggggtt 360
accatcccat ttttagcatt ggggccgccg ccttttccca agnnnaanaa ggcgttggng 420
ccnacnaant anccaangga attggggttc naaaaaattc tttggnatcg ggaggnacnt 480
aattgggant cntnggggtc naantttaag gggggagaaa aaaagngggn ggggggaca 540
acaaaggant tgggtggnnc ccaatccnaa nnaagggggg ggggccnaag cccncccaaa 600
tttgtttggg gggggnaaaa aantttttgn tttccacctt ttgccacctt tncccggggg 660
aaggngntnt accnttngga aaaaaaancc cacccaaaaa aaaaaaaaaa ncccaaaggg 720
gcttngggtt ttnggngggg aantaacccc ttttggggnt tggggacccc aaaagggggn 780
aaaa 784

<210> 274
<211> 913
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(913)
<223> n = A,T,C or G

<400> 274
gnggaccgna aaaatgtggg ggaaaagacc ttacncaacc accgaccgng gtgggggcc 60
ggggnccncc gaaagnggnt taacccaacc ttntntnctt taaaaagcna aaaggggnna 120
aaggcaatnt ttcctttttt caatccccca aaagggnaat taattntggg gaacaaaatt 180
nccttggggg gggccgtgtg tgtggggaan aattnacaac aatttaagaa gaaaaattgg 240
ggccntacct tnccnttggg tgncnttttn aaagggccna gggggggan gggaaaaatt 300
gggggncnn cccccaaaga agaanccgcc ttgggggaac cnagtggggg gggagccnaa 360
aaaggaccca aattnttggg attanttatt gggggngaaa aacangggtt tnttcccaag 420
aaggggaaag angggcccca aaaaatttna aacccaaagg gatttgggat ttaaaaaaaa 480
cccaaanttg ggggttaccc aaacccntta ttgggntttg gccccccttnt ttttttaaan 540
aaanaanaaa ttnttaaagg gnttnccctt tggggtttgn aaatttgcca aagcccccca 600
aatttgtttg tttgnaaatt nnttaaaacc ccaaaggggg ttttttaaa ttttaaacaa 660
atttctttnt tctttnggggg ggggcnaaag gggntttctt ctttcaaaat ttattttatt 720
tntttntttt gcccaaaaaa aaanaaaatt tncccnaaat tttgggggnt tttttttacc 780
catttatttt gggggattgg gccccgcccc cccccaaaag gggngaaaag ggggttttnt 840
tttnccccctt tttttttttt ttaaaagggg ggggggggttt tttttnaaa aaaaaaaccc 900
ccaaaaaccc cct 913

<210> 275
<211> 760
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(760)
<223> n = A,T,C or G

<400> 275
ctntcaactt naaaaanggn gggaaaaaac caaaaaaaca nnacttgggg gggttgaanc 60
cacggggnga ccacccacnc ncccttaccg annngggatt acggaaaccg gggatcaatt 120
nccgganata aaaaggtcct tttggcaatt aattaccgga naaaaattnt cccccttnggc 180
ccaaggaccc cncgggggng gggggggaa ttgccccaan ccttcaaggc nttntncttt 240
aaggnnaggc gccgggnacc ncgganaggc gggaataaaa ccnttggacc caccgnngna 300
ccngcatagn aattgggncc tcataatcaa accaccggcc taantttncg aaantggggn 360
ccnccccctt taaaaaccca aattnccttt taaccctttg gggaaaaaaa aaggagcggg 420
ngggaccttt tccacccaaa cccgccaaaa accaccaccn cccaaagggg ggattaggnt 480
gganggaggg naggcaacna aaattgggan ttngggggcc tcctcccnaa accctttccc 540
aaattcnccc cccaaaaccc gcccaaaggg ggccaaatcc taaancccgc ctnccnaagg 600
ggggnngnaa cccanccaaa gggagggacg naagggcccc ntcctttttg ccngggngnn 660
ancccnaaac cccnaaaccc tttttntttg gggggggagg aaaaaaaccc ntttttacnca 720
aaagaagggn ggggangggn aacccatttt tttttggggg 760

<210> 276
<211> 786
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(786)
<223> n = A,T,C or G

<400> 276

tttttttnt tttattaccg tccccaggat ncgnnccgnc caatattntg anaccncctt 60
tcaaccttaa nanggggggg naanaccana aaaagcnctg gggngataac cacgggngna 120
cacacacaca cncttacgan agggatacga naccgggatt aattacggan attaaaaggc 180
ccttatggan attaaatacg ganaaaatat actcttggac cagnaccnca cggggngggg 240
ggganaatta caccaacctt taaggnttnt tactttaagg agaaganccg gngaccaccg 300
gaccnccncc ggggngggac caaggngggg ttganccccc tttttaaagg anaaaaaata 360
attttttgg gtccnaataa accnccaagc cacctttcca ccacattngg anaaaaagag 420
ggnttnncct ttattaccnt tnnccnccnc caaaccgggg tttgtttaaa tttnttaaac 480
aangggnttt ggccccnaan aaattgggct tnttcttaaa tttggcgggc ttcaacaaan 540
naaattgggn ntttaaaagg ganaaaaaan ggnncccaaa ntttcccnaa atttngggan 600
aaaatttggg anaaaagggn gggggtaaaa cccgggtnaa aanaaagggt tgaaagggnt 660
naaaaaaaac cccgggnncc cttttggggg ttttnccccg ggggtttttt ttttccccaa 720
aangnagggg ggggnggggn ccaaaggggc tttttaaaat tttttttttt ttttttttaa 780
aacccc 786

<210> 277
<211> 795
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(795)
<223> n = A,T,C or G

<400> 277
ggccccnttt ttttttttn tgggnctctt acnagcacca ggagacggnc cgtccaanat 60
tttgaagacc gccctttcna ccttaanatg gggggggnna aaccananta aggnnctggg 120
gggatnaacc acgggngnnc acacacncac acatnccgaa aggggntacc gaaaccgtgc 180
tgaatnccga natcataggg gcntnttgtn attaattact gnnaacattt tcccattgga 240
ccaagngccn cccgggggggn tggngncaat cctccaaccn ttanggntta ttgccttang 300
gggaagnncc ggggacaacc ggaaaagagg nanttgagga aaaagaatan cattgggacc 360
ggnaccatta aagnggggac caccaccccgn accatntttg ggggggaagg ggntctttac 420
ccttnggnna agngacccac cgganaaatt ggggggtga aanaggngaa agggnttttt 480
tccaaaccct ttnccaaant tgggggttat tattgggncc aaaaccacca cccggaccng 540
ngggantagg ganaaaattt ggaacccgga attggggacc nttnttnttt ttttccgggg 600
cccaaaaaat aaaaaaaaaa ccccaaaaaa ggggngaacc ctttntcctt ttccgggggg 660
nnccntttna aantttggag ggaanaaagg gaattaacca ccnccccnccc aaatttggng 720
tnanttgggg anaantaggg aanccntttg ggacaaatna attnggaata atnagggggg 780
gacaaagggg ggggt 795

<210> 278
<211> 940
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(940)
<223> n = A,T,C or G

<400> 278
tttttttttt nttggtntct taccnagcca ccaggagncn gaccgtccaa anattttgac 60
aaacctcact ttcnaccttt aanatnnngg ggggaaanac caaaantaag ggggcttggg 120
ggatnaacca ccgggaganc acacacacac acattcgaaa gngnatncga aaccgtgctg 180
aattcngana tcatangggc atttngtnat taattactgg taacattttc ccattgnacc 240
aagagccgcc cggggngatg tgnncaatcc tccaaccntt anggtttatt ccttnanggg 300
gaaggnccgg gggncaccgg nccaccaccg gggggggcc aagggggggnt tgaaccnttt 360
ccaaagngtt tgaanaaccc aangggggaac cgccgggggg taagaaaaaa naattnttgg 420
gntgggggcc tttgcctttg aaaggggnaa nagggggaaa ganttaataa naanaaccct 480
ttggnnnaat aagaagaana acctttttcct tttnaagnng aaaggggaaa aaaattctct 540

tatntcttnt tatttnnccc cccccccaa atttantngg gngaaatttg gggcttcttt 600
cttnaaagga taaaaaaana ggggnttttt ttttgggtaa agggagcaaa cccnttnggg 660
tgaaataaaa aaancccaaa nggggggggg naaaanaaac aanggggggg accnccccaa 720
attttnaaac aaataaaaaa aattttaaat tttttccctt ttgggggggg gntttttttt 780
tcccaaaatt ttnaaatttt tcccaaaanc cccccccttt tggggattna ntttgggggg 840
gganaaaacc ccaaaatttt tttttttttt tcccccccttt ttnttttntt tttttgggg 900
gggggggnaa attttttttn accccaaaat tttgggggc 940

<210> 279
<211> 792
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(792)
<223> n = A,T,C or G

<400> 279
ctttccacct ttatttaggg ggggnccgna aaatatgggg aaaagactnc accaccaccg 60
tcggtggtgg ggaccgtgac accgaagngn ttaccaaccg gggggganat natanaaagg 120
gttctctgac ctngcttgct taagngaaaa ccaattgnga aggcanaggg gttccacant 180
nacaccaatt agggggaaga ngaggnnggn attcaattaa cccacacagg cntggggggg 240
gaacaattgg gaaanaaccc anttaacaan naanacaatt ggggaaccct taaanaaagc 300
gcccanttgg nttgggngaa tttncctttt tgnccaaccg aantngtttg ccnaattgaa 360
cccaaggggt ngtcntnttn nttgccaaaa aaccnttgaa agaattggcc ctnttgttnt 420
tganccccaca aanttgttga anaaacnaag aagangggt tgcccaactc ttntnaaaat 480
tntttnttgg gggaaaaaaa aaacccccttn gggtttnaaa ggacgaaagg nntcttnggn 540
caantttnan ttttaaattt gggggccccc ccnaacttta aactttttttn aangggggntt 600
ntttttttggg gggnaaaaaa aacccccccn ttgnttgaag ccgaaagaaa ggaangaagc 660
ccaaagaaan cccttttttt ttttaaaagg nctttggggg gcttnggggg ttctttcaaa 720
cttttttttc aaaatttggc tttgggcttn gggcgggcca aagggccaaa ggggnaaaaa 780
aanaaaaaaa nc 792

<210> 280
<211> 969
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(969)
<223> n = A,T,C or G

<400> 280
tttttttttt gnaccgcccc ccgttttaan attaacnnna acctttccac cttnatnaag 60
gggggggaccg taaanatatg gggnaaaaac cttncacaac cnccgtcggt gatgggggac 120
cgngaccacc gatntanaaa naccatgggt tgntncnaac ctggngcgac caaggggacc 180
gagattgggc cccttacctg aagataaacc ttgggctnga aaattgnacc ttaaagaaaa 240
agngatnggg nattgctatn ttttnttggg gggtnaaaaa agaaccaagg gggaccgtgg 300
ggnngnttta aaaggggnaa ttttttttgg ccccccggan aggnntctcc cccttgttgt 360
tgttgnaacc ctngtgtntn gttgttgttg aaaaaacccg ccttgttatt accaccttgt 420
ttnaattggg gggggganccc naaattggga cccaccnttn ggatttggga attnttgggg 480
gaggcnttct ngggganaacc caaaggcntt gganaagcgg gggggctttt aacaaacttt 540
aanaaatttg ggggnaancc cttntttgga ttnattggga ggganttntt ggganaaatt 600
ntttgggntt caaaggggna aatttaaatt tntttnggng gggggacccc tttggggttc 660
tttnaaaaaa attttttggg ggtttnccca aaggggtttn ttttcccnaa aggntttggg 720
gntttncccc ttttttttaaa agaantttgc ccttnggggg aaaccccggn gcccnaaagg 780
ggggnnnccc ttttttttna aatttnggga ccccggnngg gttaaagggg ggggntaaag 840
ggctaaaaaa aatttggggg tttnttttt tctttncccn aaantttggg gggttttttt 900
aaaacccccct ttttttttaa aattttgnaa ncccnttnga aaagaaagcc ccnaaaattt 960

ttttttaa 969

<210> 281
<211> 975
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(975)
<223> n = A,T,C or G

<400> 281
cnnccttttt tttttttntt gnactcttac ncgccnccag gaagcgnncc gggccnacat 60
tgtganaccn ctctttcaac cttaanaagg gggggggana ccaacanaaa ggnnctgggg 120
ggntnnaacc acgggggnnc cacacacaca cacatnacga naagggatac cganaccgng 180
ggtnaaatta ccgaaatnaa aaggnncctn tggganatta aattaccgan aaaatattac 240
ncttggggcc aaagaccaca cngggggggg ggggagaatt tccccaaccn ttagggtntt 300
tccttaagga gaaganccgg nggaccaccc gganaagngg gatnnancca ccacacnncn 360
aattnttggg gtnaaaattn cctttaaggg gggggaaaaa ggggnttaaa aaccccttaa 420
aaaacccttt tttggggncc ntttttnncc nttgggggna attatttntt ttttaaaccc 480
caaggggggg ggnccnttnc ccaaatttta aagggggggnt ttgggggggga acaaanaaag 540
gnggggnggg gaaaaaccca tttttttggg ggcccncccct ttttcccaaa attttccctt 600
tttcccaaaa gggngaaatt tggggggggaa agggngnaaa accccnaaat tttttttggg 660
ggggggngaa ancccctttn aaaatttttgg gggggggaga aaaacccctt ttnttttttt 720
tttttgggggg ggaaaggggg ntttttntttt naaaaaaaaa ntttgggggn gccccttttt 780
gggngnaaaa aaaaaaaaaa attngggnan aaaagggnct tttgggggna aaaaaaaaag 840
gganaaaaac ccctttttttt ttttttttggg ggggggnggg ngggggnggg gaaaaaaacc 900
ccnttttggg gntttncttt tgggggnnaa aggggncnaa aaaaaaaggg ngaaaacccc 960
naaattttgg ggggg 975

<210> 282
<211> 945
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(945)
<223> n = A,T,C or G

<400> 282
tttttttttt ttgtaacctc nccngctcca ggaggcggac cggccaanat atgantaccn 60
cnctttctac nttnaanann ggggaaaana ccaaaatang gggcttgggg gatnaaccac 120
cgggggaaca cacacacaca catncgaaag ngnattacga caccgtgntn naattnccga 180
natcanaggg gncntttgga tataaattac cgaaaanatt tttcccattg accaagancc 240
ncccggggnn gtgngacaat ntctccaacc tttaggntat tccttagggg aaggancggg 300
ggnccaccgg nccncctccg gggggggggcc aaagnggnat tnaaccnttt ggattggggg 360
gcnaatttaa ttttttttna caanaataat ttaattttcc aanccnangg ggtttaanaa 420
acccaaanag ggggnaatta accaaattng gcncccttat tgggnttntt gccccctttt 480
aaacccaang gggtttaaat tttttggncc cgggggggggg gcccaccaan ggngnanccn 540
aanccntttt tttaaaaaag ggnttngggg aaaaaaanaa ggggcccaan ggacaaaaaa 600
ggggttgggn tttatnatta gggagggagg gactttnggn aaaacccttt tttttttncc 660
gccnttnaaa cccttttttt naaaaaaaaa anaaattttt ttttttttn gggggggngt 720
tccccccaaa nttnnaaatt ttgnccnaaa ntttttttttt ttttncccaa aaaaaaaaaa 780
aaaaaacccc caaaattttt tttntttggg gggccccnaa antttccct ttttttttgg 840
gggggggaat naaatttgg ggngggnccc cccctttttg ggggccccaa aanttttaa 900
aantttgggg ggncccctttt tnttttnttt nncccccccc ttttt 945

<210> 283
<211> 521

<212> DNA
<213> Homo sapiens

<400> 283
aggtactttt aacaagtggg tgaattattt gataattttg aggaagatta ttcttttaaa 60
ttcaaactag tatgtcaatg cctaccatta ctctgattat attaaaacag aaaaaggaaa 120
taacaacttc gtataccagc cactggtgag agttaaagac aagagctgcc cccccacccc 180
caaatgtcaa aggcaaatgc taaattgata ctggagctcg tggtgacttt ctacctcact 240
aacaacataa gggatctcca tattatttca ccactattct agctttgctg atatattgcc 300
aaatgattag actacagaat agttcaacca gagaatttac tcatttattg attaaacatc 360
caaatactat tgtaacatac tatgttaaaa ttcatcaatt caagtgccca cacaccactg 420
aattatcagc accaagcaat atattagaca tatggcaaaa ttcaacaaat atattttgat 480
ataaataaat aaacgttcac gactttactt aaaaaatcaa t 521

<210> 284
<211> 246
<212> DNA
<213> Homo sapiens

<400> 284
aggtagcaca tcaacttcag atctgtgaca ccggccaggc agcctgaatc aattaatttg 60
aaagcctcga agagcatgga ccttgtgcca gatgaaagca aggttcactc attggctgga 120
caaaaatcgg aatctccaag caaagatttt ggtccaactc tgggtttgaa aaagtccagc 180
tccttggaga gtctgcagac tgcagtggcc gaggtcagga agaatgacct ttcctttcac 240
aggccc 246

<210> 285
<211> 371
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(371)
<223> n = A,T,C or G

<400> 285
ncccnggngg ncgacggtat cnataagctt gangnnggaa ttcctgcagg gcnggntnnn 60
nnnnnnnnnn nnnnnnnnnn nnaggtactt gaanggaaga agaggaggtc tgggaaacag 120
cttccacatt gntatttaac tcatcaacac tatttctgat tggcctttcc tgntgtagca 180
aancctnttg cnnctgacat cctgtaggac acancacccc cangtntggg tcagcgcgaa 240
gacngnctnc ancatcaggg gcttttcttt ctactttntt ttgagtggca gctgatttgn 300
ctggacgagc ccnatagcca cctncactga ngggcgacct gcccggncgg ccgccaccgc 360
ngtggagctc c 371

<210> 286
<211> 639
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(639)
<223> n = A,T,C or G

<400> 286
ccgggcaggt acacacgata taccaggccc tgnatcactt acggatgtta tctataaaat 60
tcaaacgttc caacaagagg ggtattattt tcccattttt ctgatgaaga aactgaggct 120
ttggagtatt aggtgtaact ttcccaagct cttacagtta ataagtatta gagctggcct 180
tcaaacccag gtgtctactc caaaggactg tgaaaggatg aagatgatgg tgatcgtaac 240
aatggnggta acaataaaaa caatgggatg tctttttatt tcagacccag actcttttca 300

agactacatt aagtcctatt tggaacaagc gagtcggatc tggtcatggc tccttggggc 360
ggcgatggta ggggccgtcc tcactgccct gctggcaggg cttgtgagct tgctgtgtcg 420
tcacaaggag aaagcagctt cctgaagaaa agcagccact cctcatggag aaagaggatt 480
accacagctt gtatcagagc catttataaa aggcttaggc aatagagtag ggccaaaaag 540
cctgacctca ctctaactca aagtaatgtc caggttccca gagaatatct gctggtattt 600
tttctgtaaa ggaccatttg caaaattggt aacctaata 639

<210> 287
<211> 797
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(797)
<223> n = A,T,C or G

<400> 287
taaccncact tcacttatta ggggccggaa attttggggg gtggcgccgn ggggcacccc 60
ccttcnnaga ggtgngnacc nggnnttttn nttttgnacc tttggnttnt tnccnnaatt 120
ttcccnttcn nanggggggg ggggnntttc ccacnttggg ttnnttttang aaacnggacc 180
cgngcaaccc ngnggaggnt gggggganacc ttccaancnt ttttggtntc cccttttttaa 240
gttggagngg ggtttaaaat ttngcngann gctttggagc gncttnagtn caattggggn 300
nccattangn cattggtttn tncncttgtt ggnggnaaaa atttggggnt tattttgagn 360
ggntttccaa ccaaaatttt ccccaccaac caanaccaat ttancccgna aggccccggg 420
ggaaaaggcc catttaaaaa aagggngggg ttaaaaangg gccccttggg ggggggngtt 480
nggcccctta aaaattggga anntttnggaa ggccttttaa aaccctttaa accaaattnt 540
taaaaanttt ggccggtttt tgggccnggc ctttcaaacc tttgggcccc cccgggcntt 600
tttttcccc aaagggtttc ccgggggggg aaaaaaaacc ccctttgggt ttccgggntg 660
ggcccccaag ggccctttgg cccaattttt aaaaattggg aaaaatttcc gggggncccc 720
aaaaaccggn cccnccccgg gggggggnaa aggaaaangg ccccggggtt tttttngccc 780
ggtttaattt ttggggg 797

<210> 288
<211> 534
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(534)
<223> n = A,T,C or G

<400> 288
tacgagcggn actctgggca ctcaanggna nnnaacnggc cacttcnaga cccacncctn 60
tntgtagctg cggcnatacc ctcaatgnta cnctttacta ctcacancan ccttacnaac 120
atggtnctgg nggagcngct aangcttaaa cnggcttatt tccacangan nngancatnt 180
gtanacagac cctaactgan cggcactang gtgntatnna atcccacanc cnttgganac 240
ccntanatgn aganggngac nanagantca ttgagcgctg ganatagagn gttttgttcc 300
aagtatatga attnnttatt tcanccttta aattttgccc accagaaccc ctttaaattc 360
ccctttgtta aaattttaac ctgtttagtc ccaaagaggg aacagnctnt tttgggacac 420
ttaggaaaaa aaccttgtag agagagtaaa aaaatttaac acccatantn aggcctaaaa 480
gcagccacca attaaagaaa gcgttcaagc tcaacacccc tacctaaaaa aatc 534

<210> 289
<211> 100
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(100)
<223> n = A,T,C or G

<400> 289
gcgcgcaatt aaccctcatg ggggggacan tagntncctg cccccccncc ncngncggcn 60
gacggtatcg ataagcttga tggnngggat tcctgcaggg 100

<210> 290
<211> 499
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(499)
<223> n = A,T,C or G

<400> 290
acctccactg ctttggcttg tttcgttgta ggctgctctt ctgtctgtga ctcaatctct 60
aattctcgcc ttgccacata atcccaagtg agaggatcat ctgtgtgtag agcctgaagg 120
tcatcacaaa tctcttttg tagatctttg gcaaagtcaa atagctgngc aatcgaaagc 180
agtgacacgt gaaattctgc acctttaatt atgcttacag aatttttgta gatgatccat 240
gccaactcgc ccttaaggat ttcttcagaa taatcaggat tctccacatc catactggct 300
ttttcaaatt cttccttctc cttcctcagt ttttcagcat gcatcagctc catcctaaag 360
tattctttat aaagttttgg gcactctgga tgaaagcgca gtgcgcgaag gaaatagttg 420
ccttgcgctt tctgaagaca aatcgatctt ccatttccca tttggctgcc ataatccaca 480
aagctggttt gttggaatg 499

<210> 291
<211> 377
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(377)
<223> n = A,T,C or G

<400> 291
cagtgtcaag gcaggaggct tactcaagcc ctgttccttc caggcctcac agcagtggga 60
atttacctca gctaatagag ggagatctta caacacattt ntcaatctag attcatgtct 120
tgagacccca ccccaagatc aaaagctcct tagtctcttc ctctgcccac cttattgtaa 180
ggcccctntn tcanggacct aatcccttca ggatcctaat aaaatgaaca ncattggggg 240
gaaaaaaggt aaacctttat ttggaaaaag agtttaaata acaatttaaa accccatttc 300
actttcaaaa canaaacatg aaagcaagga aaagataatc tatcaagcat ctgccctctg 360
ctgtggttag ccatttt 377

<210> 292
<211> 400
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(400)
<223> n = A,T,C or G

<400> 292
atggagctcc ccgcggtggc ggccgaggta caagcttttt tttttttttt tttttttttt 60
atccttgaag caaaggagct gtaattcaag gatttacaag acatttctgc atgacagagg 120
agtgattagg atttgtcttc acatgggagt ctccctgtat tgggtgaacc ttcttagtct 180

tgtcaatata aagtactgtg acctgagaga caccctcctc taaaaattaa ttgggcgggt 240
ctgggctgca gaggtagggg gctgctttgg gctttgcacc tgcactttgg tgacattgnt 300
cttctgtgtt ccctttattt atgctggtgg cttcatccgt tcctcctctg agggtgagtg 360
gaggggtata tggaaacacg gctatgacca aagggagatc 400

<210> 293
<211> 461
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(461)
<223> n = A,T,C or G

<400> 293
ggcnatngga gctccccgcg gtggcggccg aggtgagaaa gtgatataca tactacataa 60
ttgttctgtt ggttaatatg cccaaaataa tagttactat cattacatct tacagaaaca 120
aaaactttaa gcttattact tttcagaagg aaaaaagtat cctataactg aaaataattt 180
tcgccacaat agcaaaatag aaaaaataaa tcttcctgaa acattagcaa gagattttaa 240
gtttttattt gtttaaagag tataggtggt ggtttcaaga aaagactttt gctaaaagca 300
gctagcaata agattatggc tatcaaacca gtttctttca tagaaagtga ccattccttg 360
aagtgctact gtttttgaaa gtttcttaga acagtctcag cattctaaac agctgtagtt 420
ctacatattt gttgttgcaa tcttgggcag gaaaatcact a 461

<210> 294
<211> 300
<212> DNA
<213> Homo sapiens

<400> 294
tcgcccgggc acggtacggc cagggatgtg gaagatgggg acattcccaa aaaaggcagc 60
aaacttctcc gcatccatcg tggctgatgt gacgatgagc ttcaggtctg agcgccgagc 120
cactacctga gagaagaggc ggctcggagg cccccatggt ggggaccctt ggctcctgtc 180
ccccagtccc atcagcacca cccccgagga aacacaagcc aaagctgaca aatgggccta 240
ttcaattctt accaatcatg aagactgaag caatggagcc actgcccaga aaaccccacc 300

<210> 295
<211> 247
<212> DNA
<213> Homo sapiens

<400> 295
gggcctgtga aaggaaaggt cattcttcct gacctcggcc actgcagtct gcagactctc 60
caaggagctg gactttttca aacccagagt tggaccaaaa tctttgcttg gagattccga 120
tttttgtcca gccaatgagt gaaccttgct tttcatctgg cacaaggtcc atgctcttcg 180
aggctttcaa attaattgat tcaggctgcc tggccggtgt cacagatctg aagttgatgt 240
gctacct 247

<210> 296
<211> 347
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(347)
<223> n = A,T,C or G

<400> 296

cgggcaggta ctgtaaactc tgttatattt catttggata agtatctaat aagcaattat 60
tacatatcct ctcatttaaa ttaccactga aaactagaaa taatctttat ttaatacgac 120
tgttttaaca ccatatggaa cgggaaataa ctaaatgaaa attgttcacg taaatgtgat 180
gggagtgggg gggtggngta gcagtatttc ttgacatgtg gcatgtcact caggaaagta 240
aaaggcccat catatccaaa atgccagctt ggatattccc ttgccaccca cttgacgaac 300
agacatacca catggcatta aatgctgcaa cctttcctaa aaatgcc 347

<210> 297
<211> 211
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(211)
<223> n = A,T,C or G

<400> 297
cttagggcga attggagctc cccgcggtgg cggccgaggt cttttttttt tttttttttt 60
tttttttttt cttttttttt tttttttttt tttaacccct ttatgtattt atttatcaaa 120
acactcgcaa acctgacctn actcaccaac acacacacac aaccaggaca catgtgccag 180
gccttatgaa aggctatnaa gtncctgccc g 211

<210> 298
<211> 343
<212> DNA
<213> Homo sapiens

<400> 298
aggtaccttc ggaactgact agtaagtata tccaaaggtt tagaaagggc tgggttaaga 60
gctacaagaa gcattaaccg caacggccac aactaatttg tatccattct tagtaacttt 120
agggaaccag actgaatgct tctcccaccc ttttgacttt cctttattag ttcgcaacac 180
aagaacatac aaaagaccgt agcgacaacc atttctgacg ccttcaactt ttaaatccaa 240
attacgtgaa accacaaagc atcagtggtg tctccccgag gaatccaaga ccccccggcc 300
ggttgccaag ccgccggaat ttcagcagga gaggaaggca cct 343

<210> 299
<211> 797
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(797)
<223> n = A,T,C or G

<400> 299
ttttacttac tttgtgattc tggctgagaa cggcttcctc ccaattcacc tgttgggcct 60
ccgagtggac tgggatgacc gctggatcaa cgatgtggaa gacagctacg ggcagcagtg 120
gacctatgag cagaggaaaa tcgtggagtt cacctgccac acagncttnt tcgtcagtat 180
ccgtggtggt gcagatgggc ccgactttgg tcatcntgta agnaccagga ggtaattccg 240
gtcttccanc aggggatgn aagcaacaag gatcctttga tnatttggcc ctctttggaa 300
ggagacaggc cccttggnnt gcattttcct ttccntactg cccttggnaa tggggttgtt 360
tgcctcttag ngatggtatt nccctcaaaa cccttaccct gggggggttc tggtgccttc 420
cccttacttc ttcttcttca tcttcgtatt atgaccgaaa ngtncaggaa aacctcattt 480
attcaggccn acgccctggg ccngcttggg gttgggagaa agggaaaacc ctacctattt 540
tagccccccc ccgttccctt gcaccgcccc gtngggaagg cattnaaggg cccaccacca 600
cttcttngng ataaccggaa caaccccaac cccccctttn tttttgttgt tacccntgcc 660
ccccgggggn cgggggccgg gttcttaaga aacctanggg gggaatttcc cccccggggc 720
ctttgnnagg ggaaatttcn canaattcna aggccttnat tcggcnaacc cgntctnacc 780
ctctnaaggg ggggggg 797

<210> 300
<211> 510
<212> DNA
<213> Homo sapiens

<400> 300
cggcaggtc ggcaagcgcg cagtgtcgac tccccggtct atgccaggcg catctcagct 60
aatccaaaag taaatgagaa acttagaaaa agattgccaa ttccaaatca acatatttag 120
agaaaattgg aaaaggagaa gcttactaca gctttatttg aggacttttt aaagaacgct 180
gggttctatc tgtgagctgc aaatcttgga gcaaaaacca gagacattgc cagagcaaac 240
aagaacagaa atacaaatgg agaactggtc aaaagacata acccacagtt atcttgaaca 300
agaaactacg gggataaata aaagtacctc ggccgcccgg gcaggtactt taccagcaga 360
ccacagtttt gccctggcta gaccaaccct cagaacaaaa tcatcattcc ttgtatttat 420
atttgtatct gagatagtaa acaagatggc tggccaggtc aacatggcac cttaacttat 480
ttttttaata ggtaaaactt cttcaaaagt 510

<210> 301
<211> 587
<212> DNA
<213> Homo sapiens

<400> 301
cggcaggtg ggatgggttg ttcccgtgct cttctcatga tagtgagtaa gtctcataag 60
aactgatggt tttcaaatgg ggagtttccc tgcacaagct ttcttgtctg ccactatgtg 120
agatatacct ttcaccttcc gccatgattg tgaggcctcc ccagccacgt ggaactgtga 180
gtccattaaa cctctttttc tttataaatt acccactctc ggatatgtct ttataagcag 240
tgtgaaaaca gactaataca gagacccagc gggtggagac ctccagctcc tcatccctca 300
agatacagga agtgagctgt tcaggccgcc tgttccccga cgaggtaagt tccaggggac 360
agaaacaagc tctctgaaga ctctcattaa tctttgctgt ccgaagctac cttctccatc 420
tcctgctcac ctgggaggac tccctggagg aagccaggaa aggtgaaaat ccatgtatct 480
cttcacattt ggagaacaaa gggaattcaa gaacaatttt atggattttc tttgtttttt 540
attaattaag acatgcctgt tttaaattag acaataattt tttaaat 587

<210> 302
<211> 992
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(992)
<223> n = A,T,C or G

<400> 302
aggggggggg aanagccnan aaaanaaggn cttggggngg ttnaccccccg gggggcccc 60
ccccccccn cnttcccgga aggggggggtg cccggaaacc ggggggttaa tttcccggna 120
attaacaagg cccttttttgg caattaaatt cccggaagag ttgttncncc ttgggccaaa 180
ggccccccccg gggggggggg gggaattccc ccaacctttt aaggnttttn cctttaagnn 240
aaggcccggg gccnccgcaa gngggttaaa ttgggaaagn gaattaaagg ttanggccaa 300
ttaaccaaat ntttnaatta aaattggtnt tttgggcntt aattnttggg aaccaaaaag 360
nttccanttt tttttaaaa cccttttttt aattccaacc aatttttaat tttttggcc 420
aattgggtnt taaccncctt ccccctcaat taaaaaaaac ccttttaaaa ggttgggccc 480
ggggggaacc caaaaagggt ttttttttta aaaatttccc ccaagggaaa aaatttttgg 540
gaaaccccct ttttttttg gggaaccctt ttttaaaaaa aaaggnccca aagggggggg 600
gggggggaaa cccttttttt ttgggttnaa ttttaaaggg naaaaaaggg gggttttttt 660
tgggggggggg ggggngggcc ctttngnntt tgggggggggg gggggaaaaa agggggggaa 720
aagggaaagg gtttcccccc cccccccttt gggggaaaaa ggggggggttt ccctttggga 780
aacccaaacc ccgggtttcc cttttgggcc ncccttaaac ccccccccaa attttttccc 840
tttttggggg ggttggggaa atttcccaaa aaattttttta aaaaaaaatt gggtttaaag 900
gggggtttaa atttgggaaa aaatttaaaa aaggnttttt nccgggaaaa aagggccctt 960

tccccccggg tgnggggaag gggttgggaa aa 992

<210> 303
<211> 662
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(662)
<223> n = A,T,C or G

<400> 303
cgggcaggta ctttttcctc tggcacagta actgcttccc attgatgatc atcattatct 60
ccagcaatgt anaatgagag agtctgactc ccaaggatta aaatcaattc caaaattcct 120
caagcttttt catgntgatg gtattatgcc agctcatatt tattcaagga acatgcctga 180
ttaaancaag ggaagatgtt aaagaccctt tcttttgtct ccaagcatgc ccattttaca 240
aagggttgag nanaatatcc ctgccaaatc ttgttttcaa aattcaggag tcccttaaat 300
tcttttaaaa tgcccttagc aaatnaaaaa tccattngaa aaacccactg gatggtgcca 360
gtntcttgtn cttttgtttt ttcttgtggt tcatttctac cacaaaagct tctacaaatg 420
cccttaccct gtaaggtcat aatctncaag catcntaaaa atccttntct ccccattacc 480
tacttcatgg aagaattaaa cattttcttt tggttaagga gaggtatttt tttcgggnca 540
ttcttgaggg cnttttttng tcttagngaa tngggaatcc gataagnttt gnaataaatg 600
gatttttttt tataccatta ggaattatta ttaaaaaaan taccagcccc ngggaaaaaa 660
cc 662

<210> 304
<211> 263
<212> DNA
<213> Homo sapiens

<400> 304
tccaccgcgg tgggcggccc gcccgggcag ggtacttaag acctggtatg gagaccccac 60
ggggtgggaa agggcttccc tctgccttga caatttcctt gaatatccag cccagtaaga 120
atatttttta catcatgact ttagataaca cgtttataac tgaagcaaaa gctcgaagaa 180
acaacactta actttactac aggagttaca ccccatgcat ttttaattcc aattttgtgt 240
gtgtgtgtgt gtgtgtgtgt gtc 263

<210> 305
<211> 904
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(904)
<223> n = A,T,C or G

<400> 305
accgnggtta antncngnaa ttaanaagtc ctntngggat gaattctggg agagtgtncn 60
cctnggcgag ggcncncngg gggngnggga attcnccacc ttagatnttc nttaggnaag 120
nccgnggcnc cgnaagnggt tcnccccaaa atttngggggg accccanaat tccttaattc 180
caacncncct tattagggaa agggaaacnt naaaatnggt gttaggtnat caaangctta 240
naaccaattg gaaaaacacn aattttcctt cgcgttcncc ggcgattaaa aggccccttg 300
gccggttcca gnaattttat aaaaaaccan ccttgnatac ctgggacnaa aattttataa 360
ccaaggcgcc ccaaaattaa tnccttaacc aaaattgcna aaacnccaaa accaaaaggt 420
ncaaatttta attttaaccc cccttccaac cttggttcca aaacccccca aaaccaacca 480
aggggccaat tggccttccn aattaaaagg ggggaaaaaa gggggttttt aaaaaaaaaa 540
aaaaaaaaaa gggtttaana aaaaaaaggg ggggaaaacc ctttccgggg ggccaaaaaa 600
aaatttcctt tttttaaccc cccccccccgg gcccccccttt gggttttttt ttaaaccccc 660
caaaaaaaaa aaaaaaaacc caattttcca aacccccctt ttcctttttaa aggggcccaa 720

atttccnaaa ccccccaagg gggtttaaat ttttnaaggg gaaaggggg gcccaaaccc 780
cccgggcccc cctttgggcc ccccccccaa ggggttgggg gaancccaaa cccaaatttg 840
gggttttttt tttaaaaaac ccgggggggc cccccggggg ccccccaacc ccccggggcc 900
gggg 904

<210> 306
<211> 431
<212> DNA
<213> Homo sapiens

<400> 306
aggtacccaa tataaagaat atcactgaaa gtaacaatca agaaaattct ggaaatgtat 60
gtaatatttg ggttgctgaa tgaagatata ggactttatg gattgattgt taatttaact 120
gttaggacga tatatttttc tgtttttatt ttaaggaaga gcaaagctgt caaataagct 180
actatatcag aagggacata aactgaacta gtgccattct gacacacagg atcagaaact 240
cctaaaatca catattcctg aatactgcta tcagcaatac cactgagact gattcactgc 300
tatgttatgg tgatgatttg acatgatcca ttctccttaa ctaaagcttt agcttctgtg 360
gttgtctgag gttttggtgg ccattctgga tcaaccaaga gctcctgcgc cagatacatg 420
tacctgcccg g 431

<210> 307
<211> 943
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(943)
<223> n = A,T,C or G

<400> 307
gggnagncct ttcccaacnc ggncggggnt ggggccgggg ncccggnagg gggtnaccaa 60
aggncnttnt ntntntnttn tntntntntn tntntctntn tctntctntn tntntntntn 120
tntnnnggnn tntctntgtg tgtntctnac gngnntgana caannantgt ntncctntnt 180
natntnanan agtgggggng tnanatntnc cccatnanan atnananana ntncctntnt 240
ntnccacntn gganatgant tanaganatg tnananat ncantttctc accacanact 300
ntgatntgcg ccaaggtgan tnttancnan tttttgccnc gcttcccctt cnccccccaa 360
agagagggcg ttacnaattt ntnttgggat tagacaatta naaaaaccca ttttccaggg 420
tgcnttttaa aaaaaaccaa cccctnggga atntntnccn tnggnnttnt cggccnaggg 480
tttttnaaga caagngnngg ccaaganaat taaggncctt gggcctcctt tctttccaac 540
ccaagggaaa ccaanccttt tcnaattngg gggggaaggg ngtggggttn cccccccccc 600
ccttttttcc aaagggggaa aaaagggggg gggnaattng ggggnaaaaa aanttgggcc 660
cccccccttt cccccccccа aattttttttn naaccctttt tttttttttgg gggtccccaa 720
aaaananggg gggggaaccc cggaaaanat tttaaaaaaa aaaaggnccc ttttttttta 780
aaaaaaaacc cttngggggng gccccccaaa aaccctttaa aaaaatcccc tttttaaatt 840
tntnnaaatt cccctccctt tttttttntt naacccgcna aaccnttggg gttaaaggga 900
aaaaaacccc ccccccaaa aaaaaaangg gggggaaaaa aaa 943

<210> 308
<211> 511
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(511)
<223> n = A,T,C or G

<400> 308
aggtncaaat actgcctagt gtattcaaca gaaggactgt ggtcatgtaa caggtaacca 60
caattttcag gtttcttaaa aacagctgtn actaactcag gatttttatc ttgagatttc 120

```
cctgaataat atatttatct taagagcctt caagtttcaa attaatattg gaacatntgg 180
aattgcaaca acttttgtct tttacataaa cttacgncat ttaaaaaatg tnttcaaaat 240
ctacctttct caaattcttt ttgcctctat ttatttttgc atttcaccaa cagtgataaa 300
atagttaaat gaaacaaagc aaagtntcaa cagtccctta aatgagaatc cttatctttg 360
atctttattt tctgtgttag gtgttagggt cctggtgcag ctcataatgc taattcttca 420
ttggaagcca ctcccttcac ctnacctcac ctagtcacta ttgtctttgt tcattgtttg 480
atcctgagtg gttgattgat atagctttga a                                511
```

<210> 309
<211> 539
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(539)
<223> n = A,T,C or G

<400> 309

```
tatagggcga attggagctc cccgcggtgg cggcccgagg tacatgtgaa gagtctctga 60
tgtgatgatt ttcagctgga attatttttg atcaaatgaa tctggagacc gattcattgt 120
gagcacctga ataaaatgaa aactttgttt ccccttggta actgttgggt tggtttctgt 180
tcactggctc tctacatttg ccaggattct ttggggaggc agtcacagga gtgaggtgca 240
gttgcttttc ccacgagtta ggggaactcc tgctgcctga acacaaacaa ccctgacatg 300
ttcccttctc caagaggaga tgtgatgaca attgtctttt ggcacaattg aactctagaa 360
actccatttt tgtttttcca gaggtctgaa tcccaaataa cagaattttg tgcagtaggg 420
accaggagcc ctagtaagga tgggtggccc tggtggccag caatgctcac tattactgct 480
canagagagg ggggccagtc atgggaagag gctagatttc ggtgttcaac aaacttggg  539
```

<210> 310
<211> 606
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(606)
<223> n = A,T,C or G

<400> 310

```
agctccccgc ggtggcggcc gcccgggcag gtacagtgag ggtgttcaga gggaggcaca 60
aagaatagct ctgagattag gcaatggaaa tgacaaaaaa gagatgaata aatncgattt 120
gaataccaac aatttgctct tcaaacctcc tgtagagagc catatacaaa agaataagaa 180
aattcttaaa tctgcaaaag atttgcctcc tgatgcactt tatcatttga atncagaggg 240
gaaggttttt gcttgagaga acaagtttga aagcaaatgg ggttttttnn tttaaaagac 300
catacccccт tttngtgtta tttctacttt taaaattttc atgggctaga aaatggtgtt 360
gttgattgca agggcctttt ngggaatnga ggnntcggnt tcatcaggcn gggtctttgn 420
ccgaaccaac ttcggttatt aggatgcctt tgnnaganca accattcgtt gatccttggt 480
tttaccaagg tacctttggn cgcttctaga actagtggga tccccccggn ctgcangaat 540
ttcgatatta agcttattcg attnccgccg acctcggggg ggggggcccn ggtncccact 600
tttggt                                                            606
```

<210> 311
<211> 492
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(492)
<223> n = A,T,C or G

<400> 311
ctcnccgcgg tggcggccga ggtgcactgt gtattgatgg tccaaaaagg ttttgctcca 60
atagcaaatc gagcggccgc ccgggcaggt acctgtgtta tgcctgtgct ccagcagctc 120
attgcctctg gcatgaactc ttctaggttt ggaaattcca ctttaaatat gaggaaatgt 180
ctgctcatgt agatgatatg acttgcccta gaacacaaat ctanaaaatg cagcaaccag 240
aattttccca agtttgttga acaccgaaat ctagcctctt cccatgactg gccccctctc 300
tctgagcagt aatagtgagc attgctggcc accanggcca cccatcctta ctagggctcc 360
tggtccctac tgcacaaaat tctgttattt gggattcaag acctctggaa aaacaaaaat 420
ggagtttcta gagttcaatt gtgccaaaag acaattgtca tcacatctcc tcttggagaa 480
gggaacatgt ca 492

<210> 312
<211> 252
<212> DNA
<213> Homo sapiens

<400> 312
ccgcggtggc ggcccgcccg ggcaggtacg ataattgtgt tgatttgtct gttgcttttt 60
ggattctcca agatccagga aatgctcatg agcatgattc tttgagacag tgggtatttt 120
attctctttt ggaacagtta agtgttttct tttctcttct gacctgtaag tctttatttc 180
ttcttctccc tttgcagttc tccattcttc ttgcctactg gctacaccag ctgatagctc 240
gggtacctcg gc 252

<210> 313
<211> 232
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(232)
<223> n = A,T,C or G

<400> 313
nccgggcagg nacgataatt gtgttgattt gtctgttgct tttggattc tccaagatcc 60
aggaaatgct catgagcatg attctttgag acagtgggta ttttattctc ttttggaaca 120
gttaagtgtt ttcttttctc ttctgacctg taagtcttta tttcttcttc tccctttgca 180
gatctccatt cttcttgcct actggctaca ccagctgata gctcgggtac ct 232

<210> 314
<211> 581
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(581)
<223> n = A,T,C or G

<400> 314
ngcgaattgg agctccccgc ggtggcgggc gcccgggcaa ggtgttcgat acgttaggtg 60
tattaaatgc actttgact gccatctcag tggatgacag ccttcttnct gacagcagag 120
atctngctca ctgtgccagt gggcaggaga aagagcatgc tgcgactggc cagtgacatg 180
cagaggatcc agattgcaca accggatcca gaggcntngg gaagtattng gganctctnc 240
angttttntt ctaaaatttt ggngcatttt ntccccncaa aggngggccc annagggncc 300
ccnttttggg ccntttnttn aanaaaaaaa ganntttttn nttttnannc ttttttttta 360
aannaaanct caaaaaaann gngggggttt tttttttttg naatatncnn aagggggggg 420
ccccccncnn ntntttnttt tntaaaaaaa ancttttttt nccccccccc cccccccnct 480
naaaaaaaaa anttnnngtt tttttaaaa aaantttttt ttttttnggg nncanccntt 540
tnttnttttt tnnntttntt ttgggngttt tttttttttt t 581

<210> 315
<211> 238
<212> DNA
<213> Homo sapiens

<400> 315
aggtactatc ttacctatcg aaggcttgag tgacttgccc aaaataagtt ttacgataga 60
acaagtggta ggacttactg ttttgagaat ctggtgctct ctgttgagag agatctggga 120
gttaaaatca ttgtcttaaa agcagagcct gagacaggca tgaagtgtta aaaaaaaaaa 180
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa 238

<210> 316
<211> 873
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(873)
<223> n = A,T,C or G

<400> 316
gggggccncc ccccncnctt cgggggangg ggtcccggca cccggggttt tattccggna 60
attaaaaggg ccttttggna ttaattcccn gaanattttg ccttggtcca ggncacccgg 120
ngngnggggg aaatccccca cntttagggn ttttnttnaa gggagggccg gggnccctgn 180
aggnggttgn cnccnccttt ttacccattt accccnagaa agggcanaaa anttacattt 240
tantgggcct tctttgggaa accacaanag ccaaggctta acccсttacc gccgggtaag 300
acccctcctt aaccaagggg gccccttaat taacccaaaa ttaccccсgg taggnttggg 360
ccaataaggg aaaggttggc ccaacatttt taatttaaaa cccaaaaggg ggcccttttt 420
caaagggcca atttgggccc aaggatttgg ccccccgggg ggcctttggg aatttgntaa 480
atttgggggg cccaaccccc caaanccaaa aanggtnaaa ttccnccccc ccccaatttc 540
caaaaaattt aaagggtaac ccaaanggcc caattttttt cnnaaagnaa aaaaaggggg 600
ggaaacccnc cccccccсaa aggggggggg ggaaggggggt tttttnttgg gccccctttg 660
gggggncccg ggtttgggna aattcccccc ctttgggaaa aggttttttt gggcccccct 720
tttgggaaaa gggggggtttc caaanttttt tccaaacccc aaatttgggc ccnttttttt 780
ccaaaagggc ccaancсccc caaagggttt ttttnccccc cccaaatttt ccttttgggn 840
ttttttccaa aaggggggggc ccaaaaaaaa aat 873

<210> 317
<211> 536
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(536)
<223> n = A,T,C or G

<400> 317
cgggcaggta catagaccat ttgccttata ttggcaaatg taagttgttt ctatgaaaca 60
aacatattta gttcactatt atatagtggg ttatattaaa agaaaagaag aaaaatatct 120
aatttctctt ggcagatttg catatttcat acccaggtat ctggggatct agacatctga 180
atttgntctc aatggnaaca tttgccttaa aataacaaaa actttttang aagnaaaggc 240
cttttttttt tgngggcccaa aactttttta antatccttt tgggccggtt aaaaaagggc 300
ggggaaaatt tnggaaattn tttttttaa aaaaaaannt ttttnaaaaa ngaaaaaagg 360
naaaaccccc gggttggggg gtttttnttt ggccncaanc cccggggaaa aatnnggggg 420
gggggncggg tttttttttt ttttttaaaa naaaangggg gccccccaaa aaaaaaannt 480
ttcctcccnc caaatattna nttttttttt tntaaaaaaa aaaaaanncc cccccc 536

<210> 318

<211> 699
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(699)
<223> n = A,T,C or G

<400> 318
aggtcgctgc tggagctgcg cgctaacggg ctgctgcaac ctaagtgcag cgcccgcgc 60
ctggctccag gtggactcca gggcaccggc tttatttntg gtgcactcct ctcctgagag 120
gtgtagacca aggtcgncta ataaactcct caagggatga aaaccnnnnn nnnnaannnn 180
nnnnnnnnnn nnnnnnnnnn nnnnnnnccc cnnnnnnnnn nnnnnnnnnn nnnnnaaaaa 240
ggttnttcct ttccnggggg gcngcanccg nggggggcc ccaattnncc ctntangggg 300
gggnntaacc cnccctcatt ggccgggntt ttaaaacctt nngacttggg naaaaccctg 360
gggttnccca aattnnatgg cntttgaaga aaatccccnt tttnccaggt gggggtnaaa 420
acnaaaaagg ccccnnccaa ttgncctttc caanaanttg cccancctta atgggaaatg 480
ggacccccc ctttancggg ncanttaaag ccgggggggn tgnnggtttn cccccaaggg 540
gaccctttan attttccagg gncctaangn cccgnncttt tggtttttn ccttcntttt 600
ttgncncgtt ttgccgggtt tttcccggaa agntttaaaa ngggggcnc cntttagggt 660
nccaattaag gnttttnggg ccttnccccc aaaaaaatt 699

<210> 319
<211> 815
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(815)
<223> n = A,T,C or G

<400> 319
tgggaagctt cccacccgcg ggttgtgccg ggcccgcccg gggccagggg nttaccaatn 60
aaatccgttt tttggtnggg nagttccggg ccaccaagtt tcaagggntt taattgggga 120
gggccacccg ttaaaatttc aacccaaaaa gtttgccaaa naaaaaaaag ggccaaanng 180
gggaaaaaaa caacgccttg ccaattgggt aagaaaatta aaggggcat ttccaaaatg 240
gttgcctggt ttaaaccgtt taaggggcca ggcttaaaat tgggcccaaa aaaaccaagg 300
ggcccaaagg ttcaaaaagn aaaaaaggtt gggttccttg ggtttttggg ggaaggggtg 360
gaaatttttt ttggccantt cttaagaaaa agggggccatt ttccttcttt tcnttccggt 420
gggacccctt caaaaaaagg aaccttggga aggnccaacc cttggttaaa agaaaagncc 480
aattgggttc ccttttccnt tttnccccct tcnaaaangg gggccccaa aaattgggga 540
atttaanccc ttttttcaaa aggaaaattt aaccccccaa aggaaaattg ggggttttt 600
tttccaaatt tttttttttt ttccnaaaaa anttttgggc ccgggggggtt tccccccaaa 660
aaaaaaggaa aagnaaaggg gggggtttt ttgggaaagg gttttttggg gggggcccc 720
cccaaaaaaa aaaaattttt tggcccaaa aaatttccaa aaggnccccc caaaaaaaaa 780
gggaaagggn aattttangg gcccaagggc ccnaa 815

<210> 320
<211> 426
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(426)
<223> n = A,T,C or G

<400> 320
gcganttgga gctcnccgcg gtggcggccg cccggccaag gtacaacatg tttgtgaatt 60

tcccagacca gccggtggtg tggagagaaa tcagcattat tacatnagca ttaaggaacg 120
attcacagga caaacaaacc caatttttaa gaagtttatt tgaaactctt cctggtcgag 180
tccagtgtga aatgttacta aaggtcacgg aacaatgctt caacacgtta gaacgatcag 240
aaatgttgct tctacttttg aggcgcttcc ctgaaacggt ggtgcagcat ggggttggcc 300
ttggggaggc actattagag gctgaaacta ttgaagaaca agaatctcca gtgaactgct 360
ttagaaaatt atttgtttgn gatgtccttc ctctaataat taacaaccat gatgttcgat 420
tacctg 426

<210> 321
<211> 382
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(382)
<223> n = A,T,C or G

<400> 321
ccgcggtggc ggcccgcccg ggcaggtact gtcctgagtg gtttggaagg tgggtagccg 60
ctgatacagg gacaggcaga tgtgcagaca cttaccaccc tggtccaccg atcccacccc 120
atgcttccac ctcccagagc tcttganata agaccttaag aaggatcctt gggcttgcat 180
taaaaccact ttgctgtccg tggaggtcta acaggaccca ntagttgtta ctacaaaagt 240
gcttttgcaa atagggcaag ttagaagaaa ggaggtaata tgaatattct ttagaaaaac 300
ttaaatccat cggcttatca atacccaagg tctggaggct acccagggca caattnggtc 360
catggaatgc ttgagtggaa gg 382

<210> 322
<211> 266
<212> DNA
<213> Homo sapiens

<400> 322
aggtacaatg tagaactctg tccaacacta atttattttg tcttgagttt tactacaaga 60
tgagactatg gatcccgcat gcctgaattc actaaagcca agggtcgagc ggccgcccgg 120
gcaggtacat gcatttgaat gacattttag gaacagtaaa tattctttta aatactgcaa 180
gttaaaaatg ttttctgaca aaactcccta aatacatagg tctagtaagg ggtttccaac 240
aggatgatgg gtgaggaatc cagcaa 266

<210> 323
<211> 372
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(372)
<223> n = A,T,C or G

<400> 323
ccgcggtggc ggccgncnng ncaggnacaa acacatacta cataattntt ctgtnggtta 60
atatgcccaa aataatttnt nctatnatca catcntacan aaacaaacac tttaagctta 120
ttacttttna naagganaaa agnatnctat aactgaaant aattttngcc acaatngcaa 180
aatagaanaa atnnatcttn ctganacatt ancaagagat tttagttttt atttgtttaa 240
agagtatagg tggtggtttc aagaaaagac ttttgctaaa agcagctagc aataagatta 300
tggctatcaa accagtttnt ttnatagaaa gtgaccattc cttgaagtgc tactgatttt 360
gaaagtttct ta 372

<210> 324
<211> 355
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

<400> 324
gggcgaattg gagctccccg cggtggcggc cgaggtacaa cgcncgtttg tngagaagcg 60
gcttggtcgg gggtgntttc ttngggtcct gnctgtttan nctctgtgag ggnncttgag 120
cccnttcacg accgncacca tggaagtgtc accattgcac cctgtaaatg aaaatatnca 180
ngtcaacaaa ataaanaaaa atgaanatgc taataaaaga ctgtntgttg aaagaatcta 240
tcaaaagaaa acacaattgn aacatatttt gntccgncca gacacctaca ttggttntgt 300
ggaattagng acccagnaaa tgtgggttta ccgatgaaga tgttggcatt aacta 355

<210> 325
<211> 409
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(409)
<223> n = A,T,C or G

<400> 325
ccccgcggtg gcggccgccc gggcaggtct gcaatgttgc atacagccaa agctcaacat 60
tggaaatcca catgaggtct gtgntccacc agacaaaggc tagggctgca aagctggagc 120
ccantggtca tgtggctggt gggcacaagn attgcagcaa atgtcaacag ncctggccag 180
gggatgttag attccatgag tttagcagct gtaaacagca aagataccca tttagatgcc 240
aaagaattaa ataaaaagca aactcctgat ttaatntntg ctcaacctgc acatcaccca 300
ccacagtnac caagcacaaa ttcagatgca actacagcac gaattacaac agcaagccgn 360
attctttcag cctcagtttc taaacccagc ctttttgcct aattttcct 409

<210> 326
<211> 280
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(280)
<223> n = A,T,C or G

<400> 326
agggaccttc tgcctgtttt cgttatactg aatgaccagt tcaaaaccaa agttttccaa 60
taacgctttg gcagnatttc ctctggcccc tgaagctatt cggggtggtg ggatggatgg 120
ttccaaggat ttttgcttct ttgtgtcttt gccttctttg agtccttcac cttcacttat 180
aaattcctgc tttggttttt ctggcttttc agaaatatct tctgcctcct tataagatgg 240
cacatccttc atgatttggc agtctgcact cactatgtta 280

<210> 327
<211> 434
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(434)
<223> n = A,T,C or G

<400> 327
gcgaggtacc tctntctgtt caacaaggtt cattccggct attnatttaa cagctggaaa 60
gttctatatc tnnggcaaag atnatctgcg gnggagggtt natncctggc ccctggcctt 120
cctggccttg gacttttgag tgcttgccgg atccttaatt cctttccggt tccagnggng 180
ngnggaanaa acantnaaaa ctccagccaa anactttntt atngaaaacc ccntttttttt 240
ttttaaaaag gaaaaaaaaa aaantttttaa ttnatttttt ttaaaaaagg gaaaaaaaac 300
ccccnnaaaa aaaaaatntn ntttnnnnnn ntnnnnnnnn nnannnaggn nnnnnnnntn 360
ntttttncnn aaaaaaaaaa aaaannnntg ggggnannta nttttttttt ttttaaaaaa 420
aaaaaaaaaa aaaa 434

<210> 328
<211> 445
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(445)
<223> n = A,T,C or G

<400> 328
cggcaggtn cttatttgaa ggtaaanatt attctaaaga gcccagnacg gaanacagaa 60
aatnatttga acaactggtt aaccttcaga aaacccttttt ggagaaagnt agtnaagagg 120
gccnatcact ncgaaataaa ggcagtgttc tnatcccagg ccttgtggng ggatttacca 180
aaaggaagcg gtttttttntt ccaaaanagt tgngccacac cccgaaaaaa aaaacnccnc 240
cctttttccc aaananaggn gnntntttttt tngggaaaaa aaaagggggnn aaaangggggg 300
nggccttaaa aaaaaaaaaa aaaaagttnt ttnggngaaa aaaaaaaaaa aaaaaaaant 360
tttttntnc cccttntttn ngggggggggg ncccccccnnn ttttttttna aanggangna 420
aaaaannttt ttttnnaaaa aaaaa 445

<210> 329
<211> 371
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(371)
<223> n = A,T,C or G

<400> 329
agctccccgc ggtggcggcc gcccgggcag gttgaccttt ttgtgtttgg aacacttggt 60
tccatgaaaa gtatgctttg tgttttaact gttaaaataa tttaaaaatt aattattnta 120
cataattaaa gaagttaaaa actattaaca ttaaataatt tcacaatttc aacatgtcaa 180
acctatgaag ggagatagga aacaatgaga aacttacttt tgctccttta tacagaatta 240
ttaactatat tttactaact aaaaaactct agtattcttt acctaaagtc aattggctgg 300
taagagggag agatgcaaaa ttctccagct ctgaacttgg agctacttca cactctactc 360
ttaatggaaa c 371

<210> 330
<211> 283
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(283)
<223> n = A,T,C or G

<400> 330
aggtacagac tggggaaaac cacggntgcc accccaacac ttgccacaca gtcacactat 60

aagccaaact taaacggact ccaggtcaga ctctaaaatc ctcgacagtc ctctagtttt 120
ctcagggctt atttgccaca gacctgccaa acatgtgata actgcctcca ggcacttggt 180
atgttcccgg tgctggctca ccagcccggg ccacacaacg tgctctcacc cactcatagc 240
actgcaagac acatctgcct gcaccgactg tcagttcatg tta 283

<210> 331
<211> 559
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(559)
<223> n = A,T,C or G

<400> 331
ccgcggtggc ggccgaggtc acactgttac cagntttata aaatcagggt catctgggca 60
tggagtccca gctccatgca acatcccact ggacatctcc ttccttgctt cactggcagg 120
ctgggtctcc tgtcattcct actccattag ttcaaggtca gtgaagaact ggggcaatta 180
accaagtaat tcatggactg cccaactgcg aaacaagaag ggcgcagtgg agcaggagta 240
ttatgctacg cggttacctt tttttatgga ggaccgaact gaggctgagc ctcagatgat 300
cctgcacgag gttatgcagt ctaaataaaa ggctggaact attcgttgaa acatacgaaa 360
ctgctaacat tggactgttt ttgactttta aagtggcaat ttcatatggn tcaacctata 420
gaagccaaaa ctttctctgg cacaacagat tgcttcaggc catctctacc cagctaaaca 480
ccccatccca ctaacacctg taactaggag ggaaggcang aagttctttg taaggaagta 540
actaactact tnttttccc 559

<210> 332
<211> 485
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(485)
<223> n = A,T,C or G

<400> 332
cgggcaggtc ggcaagcgcg cagtgtcgac tccccggtct atgccaggcg catctcagct 60
aatccaaang taaatgagaa acttanaaaa agattgccaa ttccaaatca acatatttag 120
agaaaattgg aaaaggagaa gcttactaca gctttatttg aggacttttt aaagaacgct 180
gggttctatc tgtgagctgc aaatcttgga gcaaaaacca gagacattgc cagagcaaac 240
aagaacagaa atacaaatgg agaactggtc aaaagacata acccacagtt atcttgaaca 300
agaaactacg gggataaata aaagtacctc ggcncgcccg gcaggtactt taccagcaga 360
ccacaagttt ttgccctggc tagaccaacc ctcagaacaa aatcatcatt ccttggattt 420
atatttggat ctgagatagt aaacaagatg gctggccagg tcaacatggc accntaactt 480
atttt 485

<210> 333
<211> 415
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(415)
<223> n = A,T,C or G

<400> 333
gggcgaattg gagctccccg cggtggcggc ccgcccgggc aggtacgaca tgtttgtgaa 60
tttcccagac cagcccggtg gtgtggagag aaatcagcat tattacatca gcattaagga 120

acgattcaca ggacaaacaa acccattttt taagaagtta tttgaaactc ttcctggtcg 180
agtccagtgt gaaatgttac taaaggtcac ggaacaatgc ttaacacgtt agaacgatca 240
gaaatgttct tntacttttt agggcgnttc ntnaaaccgg tggngcanna tgggggttgg 300
nccttggnga ggcactatta gaggctgaaa ctattgaaga acaanaatct ccantgaact 360
gctttagaaa attatttgtt tgtgatgttc ttcctctaat aattaacaac catga 415

<210> 334
<211> 453
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(453)
<223> n = A,T,C or G

<400> 334
gcnatnggag ctccccgcgg tggcggccgc ccgggcaggt acatgattac agacataaaa 60
taacaggttc tgagttctgc ctttcagtga gaataaaggg tatgatagtg gctgtgcatg 120
gatgacttgt atctcagcgt taatagaatt tgatctgggg aaagttcctt gccatagttc 180
ctgagttgaa aacataatta catctctgga gaaaggacca aatggagtga actattgttt 240
agagtattaa gttctatagt tcagattaaa caacacactt acccaaaact taatttggat 300
ggattttata taaaatatat aataagaatc ataccatcat ctatttgtag ccaaagtaaa 360
aagatttatg agaagaataa ggactctgct atagatctgg atgttggttt cactttcaaa 420
cacanaaata agtttctttt taaaaaagta cct 453

<210> 335
<211> 227
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(227)
<223> n = A,T,C or G

<400> 335
cgggcagatg catacataga ggtatggttg aaaaagatga acagttgtag atncccagga 60
tatcagatgc aggaacccaa gcattggcca atgagactgc agagctgggg tcacagtgga 120
aattatttgc aaaggtcttg aaaggcnntc tcttttttct ctntntntct ctctntntgg 180
cacacacaca cacacacaca cacacacaca cacacttgtt tttattt 227

<210> 336
<211> 540
<212> DNA
<213> Homo sapiens

<400> 336
agctccccgc ggtggcggcc gaggtacaga gtctaatccc tttctatgta gccaccagca 60
tgacagcacc cagcaacttt ctgcacaggt gctcgtggtt ggtgccttcg ccaaaagtct 120
atgcacatca tgctgtttct actcttggga tttccaaaag gaccacagga tattggtccc 180
attctattca gtttcttttt gcacagtata tgcctgaatg gctctgggtg tggggagcaa 240
atattctcaa ccgttcacta cgtaaggaag ccttatcctg cacagcctga gtctggatgg 300
ccacttgaga agttttgcca actcctggga acctcgatat tctgacattt ggaaaaacac 360
atttaattta tctcctgtgt ttcattgctg attattcagc atactgttga ttcgtcattt 420
gcaaaacaca cataataccg tcagagtgct gtgaaaaacc ttaagggtgt gtggatggca 480
caaggatcaa taatgcctga ggctgattga cgacatctac atttcagtgc tttttcccta 540

<210> 337
<211> 297

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(297)
<223> n = A,T,C or G

<400> 337
cgaggtgggg ttttctgggc agtggctcca ttgcttcagt cttcatgatt ggtaagaatt 60
gaataggccc atttgtcagc tttggcttgt gtttcctcgg gggtggtgct gatgggactg 120
ggggacagga gccaagggtc cccaccatgg gggncttcga gccgcctntt ntttaagtag 180
tggctcggcg cttaaacctg aagctcatcg tcacaataan ccacgatgga tgcggaaaaa 240
gtttgctgcc ttttttggga atgtcccaat nttccacatc cctggccgac ctgcccg 297

<210> 338
<211> 207
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(207)
<223> n = A,T,C or G

<400> 338
cgggcaggta ctgattttaa aaactaataa cttaaaactg ccacacgcaa aaaagaaaac 60
caaagtggtc cacaaaacat tctcctttcc ttctgaaggt tttacgatgc attgttatca 120
ttaaccaagt cttttactac taaacttaaa tggccaattg aaacaaacag ttntgagacc 180
gttcttccac cactgattaa gagacct 207

<210> 339
<211> 56
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(56)
<223> n = A,T,C or G

<400> 339
cccggggccc ggggcccccc cctcganggg caccgggtat cgataagctt gatatc 56

<210> 340
<211> 373
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(373)
<223> n = A,T,C or G

<400> 340
cttagggcga attggagctc cccgcggtgg cggccgaggt acccgagccc cgcttaccct 60
gcctttgcat gtgggtcagg atatgtgatc tccaaggaca tcgtcaagtg gctggcaagc 120
aactcgggga ggttaaagac ctatcagggt gaagatgtaa gcatgggcat ctggatggct 180
gccataggac ctaaaagata ccaggacagt cagtggctgt gtgagaagac ctgtgagaca 240
ggaatgctgt cttctcctca gtattctccg tgggaactga cggaactgtg gaaactgaag 300
gaacggngcg gtgatccttg tcgatgtcaa gcaagataac aggggacttg aattagcaga 360

gtctaaaatc agg 373

<210> 341
<211> 504
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(504)
<223> n = A,T,C or G

<400> 341
cagaattcag ggccttttg ctgccgttgn caatgaactc tcggagttgg ccctgcctta 60
ttaaatttta atcaattatc tttctaagca tcaagatggc catgtaaaca ctgtttttaa 120
gaccacgtct accggctggg cacggtggat catgcctgta atcccagcac tttgggaggc 180
caaggcagga ggattgcttg agcccaggag ttcaagacca gcctgagcaa catggcaaga 240
ccctgtctca aaaaaaaaaa aaaagtatac tacctgattt ctaaaattac caaagtgccc 300
ccttttnccc ccattattta aaaaatattg gtctaagctc tgcgcttaag ggctggacct 360
ttntttttta aaaatgttat atttttataa catcttatta ttaccaccac caaaaaagga 420
ctcagttttn tcccacttta cactttnttt ntgtccccaa aagtnaatna ctggagcaat 480
tatctgcaat ttttttaaaa tgng 504

<210> 342
<211> 452
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(452)
<223> n = A,T,C or G

<400> 342
ggcgaattgg agctccccgc ggtggcggcc gcccggncag gtactgtcct gagtggtttg 60
gaaggtgggt atgccgctga tacagggaca ggcagatgtg canacactta ccaccctggt 120
ccaccgatcc caccccatgc ttccacctcc cagagctctt gagataagac cttaagaagg 180
atccttgggc ttgcattaaa accactttgc tgtccgtgga ggtctaacag gacccaatag 240
ttgttactac aaaagtgctt ttgcaaatag ggcaagttag aagaaggngg taatatgaat 300
attctttaga aaaactcaaa tccatcggct tatcaatacc caaagtctga ggctacccag 360
ggcacaattt ggtccatgga atgctnagtg gaggaagcac tcntnttaag gctncccctg 420
acttccaaga gcatttancc ntcctttttt ng 452

<210> 343
<211> 334
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(334)
<223> n = A,T,C or G

<400> 343
cgggcaggta ctcttaaccc cattagaact gtttttcctt ttgtatctgc aatatgggat 60
ggtattgttt tcatgagctt ctagaaattt cacttgcaag tttattttg cttcctgtgt 120
tactgccatt cctatttaca gcatatttga gtgaatgatt atatttttaa aaagttacat 180
ggggcttttt tggttgtcct aaacttacaa acattccact cattctgntt gtaactgnga 240
ttataatttt tgngataatt tctggcctga ttgaaggaaa tttgagaggg tctgcattta 300
tatattttaa aaaaaattga tagggttttn aaat 334

<210> 344
<211> 385
<212> DNA
<213> Homo sapiens

<400> 344
tgggcgaatt ggagctcccc gcggtggcgg ccgcccgggc aggtactaat aaactcaatg 60
atctagcaga aatttgctga aagagggcaa aagaggacaa agatgatctt aaaaaaatga 120
actatttgag tggaatttgg aggaaatgta aaatgtcagc caggaattct tttaagaaac 180
agtttctgag catagcaggg taggggaaga tgaatccttt gctaagactt tagaaagacc 240
taggcagtgc cttccagaac tttcagacag acaaaaggca ctctccagat cttaaagaaa 300
tgtgtaacag aaactcttat tgttcaaaag gcaggatcta agaggcaagg atttaagatc 360
taaaagtgct gtcccatagg aacct 385

<210> 345
<211> 263
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(263)
<223> n = A,T,C or G

<400> 345
ctactatagg gcgaattgga gctcnccgcg gtggcggccg agccctgcag gcctctgccc 60
tgaaggcctg ggcgggaag aaggagaacc tgaaggctgc gcaggaggag tatgtcaagc 120
gagccctggc caacagcctt gcctgtcaag gaaagtacta caacgaggcc acaggaggaa 180
attatgtccc cagagcggtg ctggtggacc tggaacccgg caccatggac tctgtccgtt 240
ctggcccctt cggtcagatc ttt 263

<210> 346
<211> 377
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(377)
<223> n = A,T,C or G

<400> 346
ttagggcnaa ttggagctcc ccgcggtggc ggccgaggta cccgagcccc gcttaccctg 60
cctttgcatg tgggtcagga tatgtgatct ccaaggacat cgtcaagtgg ctggcaagca 120
actcggggag gttaaagacc tatcagggtg aagatgtaag catgggcatc tggatggctg 180
ccataggacc taaaagatac caggacagtc agtggctgtg tgagaagacc tgtgagacag 240
gaatgctgtc ttctcctcag tattctccgt gggaactgac ggaactgtgg aaactgaagg 300
aacggtgcgg tgatccttgt cgatgtcaag caagataaca gggacttgaa ttagcagagt 360
ctaaaatcag ggcaggc 377

<210> 347
<211> 478
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(478)
<223> n = A,T,C or G

<400> 347

gcnaattgga gctccccgcg gtggcggccg aggtgagaaa gtgatataca tactacataa 60
ttgttctgtt ggttaatatg cccaaaataa tagttactat cattacatct tacagaaaca 120
aaaactttaa gcttattact tttcagaagg aaaaaagtat cctataactg aaaataaatt 180
ttcgccacaa tagcaaaata ggaaaaaata aatcttcctg aaacattagc aagagatttt 240
agtttttatt tgtttaaaga gtataggtgg tggtttcaag aaaagacttt tgctaaaagc 300
agctagcaat aagattatgg ctatcaaacc agtttctttc atagaaagtg accattcttg 360
aagtgctact gtttttgaa agtttcttag aacagtctca gcattctaaa cagtctgtag 420
ttctacatat ttggntgntg caatcttggg caggaaaatc actaataaca gggaaaca 478

<210> 348
<211> 261
<212> DNA
<213> Homo sapiens

<400> 348
ccgcggtggc ggccggggcc tgtgaaagga aaggtcattc ttcctgacct cggccactgc 60
agtctgcaga ctctccaagg agctggactt tttcaaaccc agagttggac caaaatcttt 120
gcttggagat tccgattttt gtccagccaa tgagtgaacc ttgctttcat ctggcacaag 180
gtccatgctc ttcgaggctt tcaaattaat tgattcaggc tgcctggccg gtgtcacaga 240
tctgaagttg atgtgctacc t 261

<210> 349
<211> 439
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(439)
<223> n = A,T,C or G

<400> 349
ttagggcnaa ttggagctcc ccgcggtggc ggccgcccgg gcaggtacga ttccatcagt 60
tagctgcagc atcaacattc gtgaaggctt tgcttcccaa ggttttgggg ttacttgtgc 120
ttcagctgta actagatcat ttgttgtatt ctttcctctc aacttctgta tctgggagta 180
tgcanggctg acttacatca accaaggaat taatctgcag agcataaaat ccatttaatt 240
ctccttttgg aatttctaaa atgccatcgg gtaaaagagg atgctccaaa tccctcagat 300
cagtaaggag ccactgctca aacacttgtt tattcatttg ggcctgactc aagttaacat 360
tattattttc ttcttgaatc cagttaatac aagcttccag ccacatcggg agggacctcg 420
gccgctctag aactaggtg 439

<210> 350
<211> 396
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(396)
<223> n = A,T,C or G

<400> 350
agctcnccgc ggtggcggcc gcctccctgc tntggcttgt ttcgttgtag gctgctcttc 60
tgtctgtgac tcaatctcta attctcgcct tgccacataa tncccaagtg agaggatcat 120
ctgtgtgtag agcctgaagg tcatcataaa tctcttttg nagatctttt ggcaaagtca 180
aatagctgtg caatcgaaag cagtgacacg tgaaattctg cacctttaat tatgcttaca 240
gaatttttgt agatgatcca tgccaactcg cccttaagga tttcttcaga ataatcagga 300
ttctccacat ccatactggc tttttcaaat tcttccttct ccttcctcag tttttcagca 360
tgcatcagct ccatcctaaa gtattnttta taaagt 396

<210> 351

<211> 460
<212> DNA
<213> Homo sapiens

<400> 351
acctccactg ctttggcttg tttcgttgta ggctgctctt ctgtctgtga ctcaatctct 60
aattctcgcc ttgccacata atcccaagtg agaggatcat ctgtgtgtag agcctgaagg 120
tcatcacaaa tctcttttg tagatctttg gcaaagtcaa atagctgtgc aatcgaaagc 180
agtgacacgt gaaattctgc acctttaatt atgcttacag aatttttgta gatgatccat 240
gccaactcgc ccttaaggat ttcttcagaa taatcaggat tctccacatc catactggct 300
ttttcaaatt cttccttctc cttcctcagt ttttcagcat gcatcagctc catcctaaag 360
tattctttat aaagttttgg gcactctgga tgaaagcgca gtgcgcgaag aaataagttg 420
ccttgcgctt tctgaagaca atcgatcttt catttcccat 460

<210> 352
<211> 300
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G

<400> 352
cgcttgatat cnaattcctg cannccgggn gatccantac ntttagagng gagcgggtcg 60
actatgatga gtcnntgnag ttcatgaagg gtggtggagt agatgctgac ctttacccag 120
aagctgtctt atgcccactt ctccaacttn cagcngacgt nctggggtct cgggnttcca 180
cctcccagag ctcttgagat aagaccttaa gaaggatcct tgggcttgca ttaaaaccac 240
tttgctgtcc gtggaggtct aacaggaccc aatagttgtt actacaaaag tgcttttgca 300

<210> 353
<211> 404
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(404)
<223> n = A,T,C or G

<400> 353
ccgcggtggc ggccgaggta ctgacagcag cactttgagg catacttaat ctattcacgg 60
gtgttggggg agcactgtct gatcggggnc tagaaatacc taagaatgca tccaccagac 120
agctgattcc acgcatggca cgaaaaaata tttgaggcag natgtttaag gcagggatac 180
tgattcaatt cttgcggcat tccgctcaca ttcaagaact gttcctgaaa tttgggagta 240
gggcttataa tagctgggtt actcaaatcc acaggattac ttaacatgtg taaaaagcga 300
aaccatgtct gtgcaacaca ctcattatcc atttctggag ggatcagact ggcatcttca 360
tcgggaactt taaatgcagg aaatgaagga ccatatgtaa agcg 404

<210> 354
<211> 261
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(261)
<223> n = A,T,C or G

<400> 354
nccgggcagg tttttttttt tttttttttt ttttttttga gtgacanaag ctgcttttta 60
tgtaggagca cacagaaaat ccccaggcag ccaggagctt tcagggccgg aggaggtttg 120
cccaccgcat acncagtaat ggggaacaga aaccgggcag gctgcatttg gtgatctcag 180
ganaaaggct tcctcagtgt gtcgaaagaa accacacgcg gcctggggca naanacctgc 240
ccttagggng gccgagacct n 261

<210> 355
<211> 309
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(309)
<223> n = A,T,C or G

<400> 355
gtggcggccg aggtacctgg gcctgaagct gggacccgca ctgaaactct gctaccacat 60
tgacaaactg aagcaagcca agttctgacg ttnttaaaaa gacagaagcg aaacccaaaa 120
caacagatcc caagattatc ttctgcctta ccaatttccc gccaacatca caaaatagac 180
tctnctctta aaattaacag ccacagagac gtggtctttt tataaaactt gtgaatcttt 240
gccttttgaa gaatttaaca tggacctttt cgagaggctc ctctgtgttc ataatttgcc 300
aaaaaatta 309

<210> 356
<211> 659
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(659)
<223> n = A,T,C or G

<400> 356
nggtactggc cgccatgagg aaagctgctg ccaagaaaga ctgagcccct cccctgcctt 60
ccctgaaata aagaacagct tgacacacaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120
anaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaggagaa ananaaaaaa aanggnntnt 180
tacaaaaggg aanaanaaaa aaaanaaana annntttntn tttcccgggg gggnnncanc 240
gggggggnac nnnaantcnc cnntnnnggn gggtttnana cccccccctna tnggccttgt 300
ttaaaaaaca tcngnntggn aaaaacctgg nntnaacnaa annaannccc ttngnncaaa 360
ccnccttttc ccagttggna naataaaann naggccccna nnaacaggcc ntttaaaaaa 420
gntggcnatc ttnanggnaa aangngaccc cccttttaatn gcnaatnnaa gcnngggggn 480
ngggggtan anccncatna ctnccttnna attgcngggg ccttaccccc natntttnaa 540
attatnccct ttctttttgg cccaattgcg ggtttccccn naaaaagttt aaaaangggn 600
tnctttttag ggnggcccat aaaggnttaa gggccctnnn ccccnaaaaa attttttttg 659

<210> 357
<211> 633
<212> DNA
<213> Homo sapiens

<400> 357
ctatagggcg aattggagct ccccgcggtg gctgccgagg tacttttgca aaaagtcgac 60
tgtgactgtg tagcattatg ttctgtagaa tttttttcaa gtagcataat ttatttcatt 120
ggtgtgaaaa cagccaaagg ttccaatatc ctcacaaatc atttatgcca aacatctgag 180
ggcaaaattt agccggtgtt atttactaga ttcttccctt tgaactcaca gactcaagag 240
acagaccaag agttcttata tactcaccac agcggaccaa tccaagtggc atttttagga 300
aaggttgcag catttaatgc catgtggtat gtctgttcgt caagtgggtg gcaagggaat 360
atccaagctg gcattttgga tatgatgggc cttttacttt cctgagtgac atgccacatg 420

tcaagaaata ctgctcccca cccccccact cccatcacat ttacgtgaac aattttcatt 480
tagttatttc ccgttccata tggtgttaaa acagtcgtat taaataaaga ttatttctag 540
ttttcagtgg taatttaaat gagaggatat gtaataattg cttattagat acttatccaa 600
atgaaatata acagagttta cagtacctgc ccg 633

<210> 358
<211> 336
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(336)
<223> n = A,T,C or G

<400> 358
gcggcagccg gcagntttgc agcggtgtgt tctaggtcag tggcttcaaa gactccagtt 60
ggattcattg gactgggcaa catgggggnt ccaatggcaa aaaatctnat gaaacatggc 120
tatccactta ttatttatga tgtgttccct gatgcctgca aagagtttca agatgcaggt 180
gaacagtgta gtatcttccc cagcagatgt tgctgaaaaa gctgacagaa ttattacaat 240
gctgcccacc agtatcaatg caatagaagc ttattccgga gcaaatggga ttctaaaaaa 300
agtgaagaag ggctcattat taatagattc cagcac 336

<210> 359
<211> 540
<212> DNA
<213> Homo sapiens

<400> 359
tagggcgaat tggagctccc cgcggtggcg gcccgaggta catgtgaaga gtctctgatg 60
tgatgatttt cagctggaat tatttttgat caaatgaatc tggagaccga ttcattgtga 120
gcacctgaat aaaatgaaaa ctttgtttcc ccttggtaac tgttgggttg gtttctgttc 180
actggctctc tacatttgcc aggattcttt ggggaggcag tcacaggagt gaggtgcagt 240
tgcttttccc acgagttagg ggaactcctg ctgcctgaac acaaacaacc ctgacatgtt 300
cccttctcca agaggagatg tgatgacaat tgtcttttgg cacaattgaa ctctagaaac 360
tccatttttg tttttccaga ggtctgaatc ccaaataaca gaattttgtg cagtagggac 420
caggagccct agtaaggatg ggtggccctg gtggccagca atgctcacta ttactgctca 480
aagagagggg gccagtcatg ggaagagggc tagaatttcg ggttcaaca aacttgggta 540

<210> 360
<211> 257
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(257)
<223> n = A,T,C or G

<400> 360
aggtccagca gcttccagcc agtccccaca gcctcatcag ctctcttcac cgtttttga 60
tactatcttc ccccaccccc agctacccat aggggctgca gagttataag ccccaaacag 120
gtcatgctcc aataaaaatg attctaccta ccnaaaanan anaaaaaaaa aaaaaaaaaa 180
aaaaaaaaaa aaaaaaaaaa aaanggaaaa aaaaaaaaaa annaaaaaan aaaaaaaang 240
tttgtncntg cccgggn 257

<210> 361
<211> 337
<212> DNA
<213> Homo sapiens

<400> 361
cgggcaggta cctgtgttat gcctgtgctc cagcagctca ttgcctcccg catgaactct 60
tctaggtttg gaaattccac tttaaatatg aggaaatgtc tgctcatgta gatgatatga 120
cttgccctag aacacaaatc tagaaaatgc agcaaccaga attttaccca agtttgttga 180
acaccgaaat ctagcctctt cccatgactg gccccctctc tctgagcagt aatagtgagc 240
attgctggcc accagggcca cccatcctta ctagggctcc tggtccctac tgcacaaaat 300
tctgttattt gggattcaga cctctggaaa aacaaaa 337

<210> 362
<211> 617
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(617)
<223> n = A,T,C or G

<400> 362
ctatagggcg aatnggagct ccccgcggtg gcggccgagg tgagaaagtg atatacatac 60
tacataattg ttctgttggt taatatgccc aaaataatag ttactatcat tacatnntac 120
agaaacaaaa actttaagct tattactttt cagaaggaaa aaagtatcct ataactgaaa 180
ataattttcg ccacaatagc aaaatagaaa aaataaatct tcctgaaaca ttagcaagag 240
attttagttt ttatttgttt aaagagtata ggtggtggtt tcaagaaaag acttttgcta 300
aaagcagcta gcaataagat tatggctatc aaaccagttt ctttcataga aagtgaccat 360
tccttgaagt gctactgttt ttgaaagttt cttagaacag tctcagcatt ctaaacagtc 420
tgtagttcta catatttgtt gttgcaatct tgggcaggaa aatcactaat aacaggaaac 480
agaggccggg cacggtggct aaccgcctgt cttcccagca ctttgggagg ctgaggtggg 540
cagatccaag gtcaggagtt ttgagaccag cctgccaaca ngggtgaaac ccccatctnt 600
acttaaaaat accaaaa 617

<210> 363
<211> 360
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(360)
<223> n = A,T,C or G

<400> 363
cccttagcgt ggtcgcggcc cgaggtacaa gctttttttt tttttttttt tttttttttt 60
tttttttttt tttttttttt ttttttgann aacatggntg nttatttnac ctngggggca 120
ggagggtngn ntccnaaaag aaantcanng angggngana aggggggggn cattttanaa 180
nattggggng gntaaaggaa aattncnncc nnngggggtt nnttntntng nnncaaangn 240
ggngnaaana anganttttaa gaggntaacn tntnatncna aatnactcng naaaangaat 300
ttnanaagaa aatggcataa gttaaggggg gagcnggccn tttttcactt ntttttgggg 360

<210> 364
<211> 475
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(475)
<223> n = A,T,C or G

<400> 364
cgggcaggta ccaacccaga tagcaacatc cactaatcca gcaccaattc cttcacaaag 60
tccttccaca gaagaagtgc cgatgaatat taattgttga attcatttca gggcttcctt 120
ggtccaaata aattatagct tcaatggggc aaanaggtcc tgnaacattc agctccattg 180
naatgtggaa aatacccaac cgcctgnaca gcatgcattt tcttgcaatt tttagcccga 240
aagntgagnc naccntgtna ccanaaaact tnttaanagc caccttattt gnaancgcna 300
tgcttttggt aaaatggtac ccttnggccc gccacccgcc ggtggggaag cctcccaaat 360
tccggcccct atagtnggag gtctttantt tacggccgcg gcttcacttg gcncgnncgt 420
ttttaacaaa ncgtncgttg gactgggnga aaaacccttt ggccgttacc ccaaa 475

<210> 365
<211> 230
<212> DNA
<213> Homo sapiens

<400> 365
ggcgaattgg agctccccgc ggtggcggcc gaggtactgg cctcccggga gccactgtga 60
ccaggccttt gagctcttgt catctgtgga gagaatcatg caaattttaa aagttcttcc 120
aagagacttc catgtcctgg ttattaacaa aaaaggaaaa atgtaataat tgatatgatt 180
ttgtaaaagt atttttcttg aaataatcta aagtttaaaa cattatatta 230

<210> 366
<211> 669
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(669)
<223> n = A,T,C or G

<400> 366
cgaggtacat ccggctgatg gacagtgtgg cactgaaggg gggccgtggc agtgcttcat 60
ggtccanaag tgcaagctgt gtgcaagaga aaattccatc gagattttaa gcagcaccat 120
naagccttac aatgctnaaa gaccatgaaa actttaagac aatatggaag tttgagtgcc 180
gggccttgaa ccagttgatt tcagcccagc ttgggttttn ttgctgaagg tgtggaagtn 240
agggcagcct taatgacatt aatntgcagg aaaaggctgg cttgctntta tnaaaaggcc 300
nagagttttg gggaatttat aaggtcnccc ccagtttggg aagggctgat ccctttcntt 360
ccaagtggcc ttaaaactga aaaaggcaaa gtacttgccg gggggccccc acgggggga 420
ctccaattnn cccataanga ggnnattacc cccctccttg cccggttttn aaacgnnnga 480
ttgggaaaac ctgggtttnc caaatantgc nttggaaaaa tcccnttttc caggtggtaa 540
naanaaaagg cccnacaatc nctttccana attnccaact taatgcaatg ganccccttt 600
acggccttaa acccccgggg tnnggtccca agnnncnttt ntttnngnct tnacccnttt 660
tttttttt 669

<210> 367
<211> 420
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(420)
<223> n = A,T,C or G

<400> 367
cgggcaggna cagtggtatt tcatataaaa tatacacttc catcctactc atgtaaagta 60
gcacagcagt gaacaagata ccctatgtgt atgaaaatat cctaattgtg ttcctggaat 120
ttctaaagtc acaccaaata aaaatcntga aataaaaaca taaaccccat gacaaaanga 180
aaaaccggga gggggaattt ccttgatgga cctagacctt cacctcggcc cgccacccgc 240
gggtgggagc ttccaattcg gccctataag tgaagtcgta tttaccgcgc cgcctcactt 300

gggccggtcg gttttacaac ggtcgtggac tggggaaaaa ccctgggcgt taccccaacn 360
ttaatcgcct ttgcagcaca tcccccttt ctgccaggct tggccgtaat agcgaagaag 420

<210> 368
<211> 339
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(339)
<223> n = A,T,C or G

<400> 368
aggttttttt tttttttttt tttgcataaa tacacaattt tatttgctat ttccagggga 60
aacttaggca ttaaactgta agctgataaa atacgatacc taaaaaagta taaaagtata 120
aatatcccct tagaataaat tttagtgaat taagtcttaa tatctttaaa ttaaaaaaac 180
ccacaaggcc tatctactat gtcaagggtc aaaaaatcaa aacaacgcta agcggccagc 240
agctccccag gaggagggat gccccaggga gccccagcgg cccgccaccc gcgggnggga 300
gcctccaatt ccgccctata gnggagtcgt attacgcgc 339

<210> 369
<211> 431
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(431)
<223> n = A,T,C or G

<400> 369
aggtaccctt cagcatccca ttctactgca acgtggccaa tgccttcctc gtagctcctc 60
agatctactg gttctgnctg ctgtgcagga aggcagtccg gctctttgac actccccaag 120
ccaaaaagga tggctaaaat gctcctggga gtcaggcgca gnctcacacc caggctgcct 180
cctccactca gnnatttcca tgggaccaca attngttgcc ctgggttagg ccctcnagaa 240
ctttgggtga tcnggataaa gnccggattg gaatttgagt ttttctaaag gaatatttca 300
tattaccctc ctttcttcta aactttgccc ttatttgcaa aagacacttt ttgtagtaac 360
aactattggg gtcctgttag accttcacgg gcacnagcaa aagnggggtt tttnaatgca 420
aagncccaaa g 431

<210> 370
<211> 589
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(589)
<223> n = A,T,C or G

<400> 370
agactatgtg caaaaagccc agaccaaaga acaggcagat tttgcagtag aagcattggc 60
aaaagctacc tatgagcggc tctttcgctg gctcgttcat cgcatcaata aagctctgga 120
taggaccaaa cgtcagggga gcatctttca ttgggaatcc tggatatttg ctgggatttt 180
gaaatttttg aggctggaac tccctttgga acaacctttg catcaaccta ccacccaatg 240
naggaagcct gccagccagc ctgttcaacc cancacccat ggtttatcct aagaacaagg 300
agggaatacc cagccgcgga agggcatcgg agtgggaact tcattcgatt ttcgggcctg 360
ggatctgcag ccatgcatcg gaccctaata agaagagacc tgcgnaaccc tcctgggngt 420
acctcggccg ccacccgcgg tgggaagctc caaattcgcc cctatagtga gtcgtattta 480

ccgccgccgc ttcacttggc ccgntcgttt tttacaaacg tcgtgactgg ggaaaacccc 540
tggcggttac ccaaacttaa tcgcccttgc aagccacatt cccccctt 589

<210> 371
<211> 632
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(632)
<223> n = A,T,C or G

<400> 371
aggtacagaa tatgtagtga gtgtctccag tgtctacgaa caacatgaga gcacacctct 60
tagaggaaga cagaaaacag gtcttgattc cccaactggc attgactttt ctgatattac 120
tgccaactct tttactgtgc actggattgc tcctcgagcc accatcactg gctacaggat 180
ccgccatcat cccgagcact tcagtgggga gacctcgaga agatcgggtg ccccactctc 240
ggaattccat caccctcacc aaccttcact ccaggnacag gagtatgttg gtcagcatcg 300
tttgctctta aatgggcaga ggagggaaaa ggttccctta atttggattt gggccanaca 360
atcaaccagg tttttcttgg atgtttcccg gagggggaac cctgggaaaa ggtttggttt 420
ggcttgggcg gaaccccccc cacccaggcc cctaacttgg aatccaaggc ctttgggga 480
atggccttcc cctggcntgn tncnaccang gtggaaggga ttantttanc aagggnaant 540
ccacctttta ccggggnagn aaaaaccaag gggaagggga aaattaaggc cccnttggnt 600
cccaagggga agttttcaac ttggnggccc tt 632

<210> 372
<211> 547
<212> DNA
<213> Homo sapiens

<400> 372
ccgcggtggc ggccgcccgg gcaggtacat aaagtgctag aaaatcatgt tccttgtcct 60
gagtaagagt taatcagagt aaatgcattt ctggagttgt ttctgtgatg taaattatga 120
tcattattta agaagtcaaa tcctgatctt gaagtgcttt ttatacagct ctctaataat 180
tacaaatatc cgaaagtcat ttcttggaac acaagtggag tatgccaaat tttatatgaa 240
tttttcagat tatctaagct tccaggtttt ataattagaa gataatgaga gaattaatgg 300
ggtttatatt tacattatct ctcaactatg tagcccatat tactcaccct atgagtgaat 360
ctggaattgc ttttcatgtg aaatcattgt ggtctatgag tttacaatac tgcaaactgt 420
gttattttat ctaatccatt gcttaatgag tgtgtttttc catgaatgaa tataccgtgg 480
ttcatatgtt agcatggcag cattttcaga tagctttttg tttgttggga agttggggtt 540
ttggggg 547

<210> 373
<211> 782
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(782)
<223> n = A,T,C or G

<400> 373
gagcctcccc gcggtggcgg ccgaggtact taaaattaca gctgactcaa attgcctaca 60
gaattatttg atgtagaagg ctagttgtnt acttcagatc agcaggacag tngggctttc 120
agactcatga ccactgagtt tgcttgtgtg gaaactgtgg tttcatccaa catatgcttt 180
ggacatggat tattattcca ttcaaatggg attacagact tctttgagga caggacaaac 240
ttatctntca tgggggtttt ttagaatact tttattaccc aaggaagaaa ccattgccca 300
nttgntacca tttnancttt ttaaagcaga gattaagcct tttcaatatc tgntcttatc 360
cngggacatt aagtagtttt ttaatttgnc cagnntccgt tccatntttg taacaactcc 420

ctgatgtttn ttaaaaccac ctcttctntt ttaagcnggg ggttnggaca gnctgaccca 480
accttgggct ttgngggtgg accatggtan ttnanacctt antnaatcag gcaaatcctt 540
ttgaactgng ggnggagaag ctctntttac tgngggggc ttaagctttg ttggatgaaa 600
nccttaactn acagggnctc catntaaana atggaaccag tgcnggggaa agcaaagcca 660
aaatatngag gngnttgaat cctgtnacag ngtttnggcc ctggaccacc cgccnggaag 720
ctagaatatn cctggacttt cagtntggga ccanaaaacc ctttttggtt aaaaaaaaaa 780
aa 782

<210> 374
<211> 291
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(291)
<223> n = A,T,C or G

<400> 374
cgggcaggta caagcttttt ntttttttttt ttttttttnc atgttaagaa gtttatttta 60
tagaccacag canaaattnc agccaagttt tttagaggaa atcacctggg tgtggcaaac 120
agacagggct tccattattc tacctttagg gatttcanta gtataaaacc ggttgttttt 180
gatggggatt acagcacatn atnagggcag atgcctaatt ccgaataaca tcaacgacgg 240
ctgcaatttg cacagttctg ttggtgtaaa agtcccagta gaaggttttt g 291

<210> 375
<211> 443
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(443)
<223> n = A,T,C or G

<400> 375
aggtacaata cttcatatac tgcaggaaaa ttaattgtag gtctagtcat cagcttaatc 60
agggatcctt ttcccattag cttttattaa taaaaaatca caattaggtc ataaataaac 120
aggcaaatta ttaattcatg atttgaggct taaggatgaa aacttgcaaa attagtttga 180
tatacagcaa aagttataca acacactaaa accaactgtt caatagtttt tgccttgtgt 240
gaactgccca tagtgaaaaa ggaacaaatt tttagtgatg aaagatcaat aaactatatt 300
ttggaacttt tcaagaggaa gaaggaaaaa agatttcaac aaaattaagg gcaaatacag 360
atcctaacaa aggcatcctg acatcaggga ggccatgtgc ttgctatgtg tgaaagttga 420
tnccccacaa catacagaaa aca 443

<210> 376
<211> 251
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(251)
<223> n = A,T,C or G

<400> 376
aggtacaagc ttttttttnn tttttttttt tnnttngggn cagtctttta tttaaaaact 60
ataaacaggt caccaaagta aataaagcca ttctataact aaactgttag gtntatattt 120
tttactgnac attctaagga cacaannaaa aaatnggtgg ttngggaggc cttccacatt 180
ttttggatgc taatagaaca ggcaataggc agttataaat ggatacattt cacgctgggg 240
gaaaaaagac a 251

<210> 377
<211> 516
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(516)
<223> n = A,T,C or G

<400> 377
naattggagc tccccgcggt ggcggccgcc cgggcaggta cctgtctgaa gagtgacatt 60
aaactttgaa aggacttcac tgctccttta cgatattcca aatagttttt tacattggaa 120
aagctaattn ttgggattct ttcatacatt ttcatcaaaa ctttcagtgt gattatgtat 180
tcatatcttc agtttaatat gtcagtataa tagatattgt tcaaaagttt cttgttgcta 240
aagtggtgta atctgctaca cagatgaata gctagatgtg gaaagagata tgtaaacaag 300
aaacctttgg gtattgnttc ttaaagtaaa tattgggaca atcatggtaa gcaaacttag 360
ttctgtaact gcatttttca ccttaaaagt taaatgaaat gcatgatggt attttattcc 420
ttgaattatg caatgcanca tttacatgta aatagcactg gtcatatact gatgtatatg 480
ggtatctggg ttatatctat tnttatggaa actcta 516

<210> 378
<211> 602
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(602)
<223> n = A,T,C or G

<400> 378
ggcgaattgg agctccccgc ggtggcggcc gcccgggcag gtacacaagt tagttcgatg 60
acatcttgtt atttgagaac agtaaaaggt gtgtcattgc ctcatgattt atcatagtca 120
ttactaaggg tttcagagag aatctggtgt gaagcactat cctttcagac actaaggcct 180
ttacctagtt gctcccctac cttctgtcgg aataggatta ttcccatgca cctctgggta 240
ggtataggta gtagctattg aacggggatt attttcccca tggcacaagg ggaaacactc 300
ttggataacc ttcaacaatg aggctttgct aagtggccag acttgggatt tgatcttcct 360
cacttgttat ttattaagtt taagccttat tcaagtatct ctaattgcaa tagatatagt 420
tcctgtgact tctaaaaaaa attcctggta atgctgagac agtatctttt ttgncagtnt 480
attaattttt gggcaaagat taacctgagt cttaaaagca tttatttgng ggaatgcccc 540
actggaagtg tcttctccat tggctaagta cctnggccgt ctagaactag nggatccccg 600
gc 602

<210> 379
<211> 547
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(547)
<223> n = A,T,C or G

<400> 379
cgggcaggtg aagtccgtag tgtctcattg cagataattt ttagcttagg gcctggtggc 60
taggtcggtt ctctcctttc cagtcggaga cctctgccgc aaacatgctc cgccagatca 120
tcggtcangc caagaaacat tccgagcttg atccccctct ttgtatttat tggaactgga 180
gctactggag caacactgta tctcttgcgt ctggcattgt tcaatccaga tgtttgttgg 240
gacaagaaat aacccaaagc cctggaacaa actgggtccc aatgatcaat acaagttcta 300

ctcaatgaat gtggattaca gcaagctgaa aaangaaccg tccagatttc taaatgaaat 360
ggtttactat acccttcttt aaaatgaagg ttttccaaaa ccccattccc acaatttttc 420
cttaancaag aaatatttnt cctttaaagc atgaaatcat ggtggagaac tctttgggaa 480
tcttttattg gagattccat ggttaaatca atnaataact ggaacttgna aaaaaaaaaa 540
aaaaaaa 547

<210> 380
<211> 691
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(691)
<223> n = A,T,C or G

<400> 380
cgcccgggca ggtaccttgc ccaaggtcac acaggtcaca tagtaataag aaccgagatt 60
caaagctcta aaatcagtag tcttcaccat ggcaccacac tgcttcaaac tgaagggtag 120
gttgagctgt gactagaaag acacaagcat ggctacatat ctgggagttg caactctgga 180
ttttttaagt tggaattggg tcacctataa ttatctgtat tcatctataa ttctgaaact 240
aaattagatg gctgttttga ttcttacact tttagacagt ggtagattat tataaattat 300
tcaggtatca agatcttgta taatcaaaat actctttttg gtnaccaaaa atttttaaag 360
tgcattctta atgagtgcag caacccaatt tggttggnaa cataaaagac cttcggcccc 420
cnccgngggg gagctcaatt tgncctntag ggggtggatt acccccccct ccttgccctt 480
gttttanaac nggnggcnng ggaaacccn ggggtnccca aataaaannn ngtganaaaa 540
cccctttnn nngggggnnt aaaaaaannn ccccccnccg nnctcctcca aaannnnncn 600
nttgnngggn ggaggccccc nttnggnnnt naaaaanngg gggggngggg gtcncnnngn 660
nnntttttttn ccnncnnncc cctttttttt t 691

<210> 381
<211> 731
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(731)
<223> n = A,T,C or G

<400> 381
aggtacaagc ttttnnnntt tttttttttt ttttttttca aggttaccaa gaaaaaagca 60
gaagaagaaa tttattttta atttcaaaan gtttngggat ttcatcattt tgatttttaa 120
aagttaacat agaaaatatt aaaaaaatgg aaacagntta tttgaattta agctgnccca 180
cagtgtcacc tnnttcagna ggccttttgg cananagggt tgtttcttaa aaanaaaagn 240
ntnttcccgc tttttnatta cnatggaaaa aaacncntct tctccnttga aaaacctggc 300
aanacctntt tttcttttt ttaaggnttg ggttaaantg accaanaatt ntnggttcca 360
acatcccaaa ttgggtgttc cananaaaaa agtcccccat tgganttcac tttttngggg 420
aatcaatttt caacanttta aaggttttgt tnntacctng cccggggggc ngccacccgg 480
gggggggctt ccaaatcgnc ctnaaannng gcggtntacn nnccctantt ggccgtgttt 540
taaaacnttt ggattgggaa accctggngt tcccanttan tngnnttgga naantcccct 600
tttccanntg gtaaaanaaa aggccccccct ttncttttcn aaaattgnnc cctantgnat 660
tgnacccctt tgggcattaa nnngggnggg gngncccann gtnttntttt taggcntann 720
cccctttttt t 731

<210> 382
<211> 332
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(332)
<223> n = A,T,C or G

<400> 382
aggtacactt atccctacct tcatgttcca gtggaagacc ttagtaaaat caaagatcag 60
tgagttcatc tgtaatattt tttttacttg ctttcttact gacagcaacc aggaattttt 120
ttatcctgca gagcaagttt tcaaaatgta aatacttcct ctgtttaaca agtccttgga 180
ccattctgat ccagttcacc agtaggttgg acagcatata atttgcatca ttttgtccct 240
tgnaaatcaa gatgttctgc agattattcc tttaacggcc gccacccgcg gnggagcttc 300
nattcgccta tagtgagtcg nattaccccc gc 332

<210> 383
<211> 383
<212> DNA
<213> Homo sapiens

<400> 383
ccgggcaggt actgtctgat gacgggtgag ggcagagttc ttagtgaagc ctctctcaca 60
gtgagaacac ctgtaaggct tttcaccagt gtgggttttt cggtgggcac tgaagtggga 120
gctattgttg aagattttcc cacacactgc acaactctgg tgactcatct tctcctggga 180
tggggttttc tcctcactct cccctggaga atttctacat tgccttcttg atgttggctc 240
actctccaag cctttttgta gctcagagtg ccaataaact cctctggact ttctctgtaa 300
agccttgttt atttctactt cctctgaatc atcccatttt agattttctt ttttaatctc 360
ggttcttgaa ctcaaaaacc aag 383

<210> 384
<211> 371
<212> DNA
<213> Homo sapiens

<400> 384
ccgcggtggc ggccgcccgg gcaggactgg tgtgcttagc attgttgtta gtttttttatt 60
ctcctttctt aaatttctga aaatgtcaat ttttcaaaat ttacagctgc ccaaactcca 120
aaatgatggt agagaattga ccaagaaaaa taaagaaatc tgttaacagg ccatggatgc 180
ccgggtagtt aaagacatgg caactggaaa atccaaaggc tatggttttg tatcttttta 240
taacaaactg gatgcagaaa atgcgattgt gcatatgggc ggtcagtggt tgggtggtcg 300
tcaaatccga accaattggg ccactcgtaa accacctgca cctaaaagta cctcggccgc 360
tctagaacta g 371

<210> 385
<211> 306
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(306)
<223> n = A,T,C or G

<400> 385
tnctataggg cgaattggag ctccccgcgg tggcggccga ggtacangtg cttctctaca 60
gtaagaaaat actccaaact attttcttaa ttctcttttt tctttaataa aatatttatt 120
ttgctttttc tctgctcaag gggatcattg gcatcccctc tctcttttgt tttttcctca 180
agaatgacac agaaagggga aaaaggaaaa aatatttaat ggaatggaag gtggtcaatg 240
tgtctaccta aacgagtcag agcatcgtca ccataagggg aaatgtacct gcccgggcgg 300
ccgctc 306

<210> 386
<211> 311
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(311)
<223> n = A,T,C or G

<400> 386
gggcgaattg gagctccccg cggtggcggc cgcccggnca ggtgtacaaa gctaactttt 60
tttnttttt tnnntntttn cattttttc cattnttttt nnttttaaag ggnnnntgtt 120
tancagcatc gctnncttct acccagtaga gatagtanca ctncactttc ctcantcatg 180
anantaaaaa tgnntccaga cattgccaaa tatcttttgg gggacaaaan cacccaggaa 240
agaaccaccc ttctanaact tcaaggaccc aattaacatc aatcttcaga aaagatagat 300
atttaaagct c 311

<210> 387
<211> 331
<212> DNA
<213> Homo sapiens

<400> 387
ctatagggcg aattggagct ccccgcggtg gcggccgccc gggcaggtat caagctgttc 60
acaccatcat ggccaagaaa ggccaaaata gccataggac ttctagaatt tgtggaagat 120
gttttccatg gcccctacgg aaatttcctc atgtgcgata ctagtgccaa aaacctagga 180
tataatgata agtatgattt gaaaatggtg gatatgagaa aaattgtgcc agagacaaac 240
ctgaaagaac ttattaagga tcgtcactgt gagtctgact tggactgtgt ctatggcaca 300
gattgtagaa ctagctgtga tcagagtacc t 331

<210> 388
<211> 388
<212> DNA
<213> Homo sapiens

<400> 388
cgggcaggta ctagaccagt ggagaatttg acaccttttc tttttgtaaa agtttatggt 60
attataccga tagaccaaaa cagcatgtgt aagaggcagt atctgcacta attctcaaca 120
tgctaaacat taactacaat tcactgttgt gagaatattc ctcgtcacag caaaaacact 180
ttcctttcta ctgacaacca gtcctccaca tcacagcatt tagacatatg ggtaaaatgt 240
tatttctagt gaattgtttg tatcagtttc atgtctaagt ataaattttc tattttaaaa 300
tttaagaacc gtttataatc agtgctttcc caactttggg ttgctctcca taactatgta 360
tttgtgaaag aaaatggtca tttttttt 388

<210> 389
<211> 161
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(161)
<223> n = A,T,C or G

<400> 389
ttagggcgaa ttggagctcc ccgcggtggc ggccgaggtc ncttnttttt tttttttttt 60
tttttttta ctgatcaatc atgtttattt aagggtttct taacattngn gatttttaat 120
gggagtntaa aattagtaaa caaccntttc attttttntc t 161

<210> 390
<211> 189
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(189)
<223> n = A,T,C or G

<400> 390
aggtcgatcg cctttcgac acctctgcct gagcctgctg ctagccctgc ctggttccac 60
cagactggcg tgtcattgga cagataaacc agtgttagct tgcaaaaaaa aaaaaaaaaa 120
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa ggcttttacc 180
tgcccgggn 189

<210> 391
<211> 596
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(596)
<223> n = A,T,C or G

<400> 391
ggtggcggcc gaggtaccat gcacaattat atctccattt taataaattt ctctttttgt 60
ttaaaaccaa gatttaaaaa tgtgttcccc aactatcctg agctcagagc ataaaccttc 120
cagagtggag catgtgaaag acacagtgct gtattttcca tgaatattgt taatggcagg 180
aactgagagg tatccatgtg gctgaggcta aaaagcccaa gcagggcttt accnggctat 240
tcttnatctt caccactgga gcctgctctt aaaatgcacc ctgtagcnnt atgaagattc 300
aaatncagtn cccaactgng cttttgtcca ttttctctgg ctttagcaag tcctattgca 360
tgggggtaaa actgggttct tgatgagtct tgcaccctct aggacccctt atgttgaagg 420
cagctccagg gacctcttaa cacccattct ttacattcat tcattccaag tagagagggg 480
ccttgacaga caagccacct tgcccgggcc ggcccgcttn tagaactang gngatccccc 540
ggnctgcagg aaatttcnat attaagctta nccatcccgg tcnacctcna gggggg 596

<210> 392
<211> 222
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(222)
<223> n = A,T,C or G

<400> 392
cgggcaggta caatgaagta aaaccatcca aatctgacag ctagtgtttt cttatttagc 60
cggagtgaga agcaagaagg ccctggacac agcaatatct ctgggctttc acaggtgtgt 120
agatgaatga aaaaatggat tgataaatgt ataaaaaaaa aaaaaaaaaa aaaaaaaaan 180
gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa ggcttgtacc tn 222

<210> 393
<211> 486
<212> DNA
<213> Homo sapiens

<400> 393
agggcgaatt ggagctcccc gcggtggcgg cccgaggtac ttgagggaag tagcatctgg 60
gtcttggtaa tccagctcag cagagctctc ttccccattc tcaaggtcct ctggctcgct 120
ctcctcagag ggcaggcaga aggactggta attgttggat tcccaccagg ccatcttttt 180
cttatgttca gcctcttcct tttgcctctt cttctcctct atgagtctcc ttctcttggc 240
agctgcttct tgtcttttct tctgtctgtc ctccagctct tctggactca gaacccgctt 300

cctttggta gatccctcca caaggcctgg gatgagaaca ctgcctttat ttcggagtga 360
tcggccctct tgactaagct ttctccaaaa gggttttctg aaggtttacc agttgttcaa 420
atgattttct gtcttcctta ctgggctctt tagaaaaatc tttaccttca aataagtacc 480
tgcccg 486

<210> 394
<211> 477
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(477)
<223> n = A,T,C or G

<400> 394
aggtactcgt ttccccaagc agattacact tccaacagca ctcgaatcaa tgcaagaatc 60
ccgcagggta aagtaaccca cagtttgtga ttctatgcag tcgatgagca acatcttagc 120
aaacctgaaa aggggaagtg tttgcttccc caggggtaaa ttatgcttaa gagcggtaaa 180
cataatctat tatttccagc taaaacagaa tggaagagac cacccagcaa gttctatagn 240
cttgtgttct tgcctgtttt gagctagacc ccactcggcg ctactaccca ggcccagagc 300
agttcacctt gaaactcttg tgttgtcaag gcccctgatg gccttcactg nattcctntg 360
nccgctncat gtgtacctgc ccnggcnggc cgccacccgn gggtggaact tccaattcgc 420
cctatagtga ggtcgganta cccccсttaa ttggccgtgg tttacaacgt cgngact 477

<210> 395
<211> 302
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(302)
<223> n = A,T,C or G

<400> 395
aggnacaaaa ggaggcacta aaatcatnga nnaaaatccc atgttntatn gcttacatta 60
atatttttct aggtaaggta aggtaagtta ctactaccaa gttatgaaac accatttgat 120
gattgcaatt cattttctct ggcatgaaga aacaatcact ctttgtaaca cattgatact 180
acaaactaca ttatgcacag ggtagccaaa gaaatctatc acaattcaaa tgccaacagt 240
cttgtcccag tagcatacag ttggtatcct ctattttccc atttggtatt cctctatttt 300
tc 302

<210> 396
<211> 524
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(524)
<223> n = A,T,C or G

<400> 396
gcnatnggag ctccccgcgg tggcggccgc ccggccaggt acatgccggg gagccggcct 60
cggcttctnc accgccccca acaagatctt ttacatngac aggaacgctt ccaagtcagt 120
caagctggaa gattaaactc tagagttttg tccccccaaa actgccacaa ttgctttgat 180
tattccattt atgctggaga ttacaaattt tttttgtgaa aaaatcagat cttggtgagg 240
acctcgagcn gtaanatata aataactccc ataagcttag cgttccantn atggaacact 300
aggcataaat ggtttattca gttgtgcaaa tgaaagccat ctgacagttg gctcacattg 360
aacacctgtg gagattaagg acgaggacaa ctatattgat gggcttggat gaactggggc 420

agggcagntc atatttcggg agccaggaga acgagtgagt gctaaaacct cctgttttct 480
gtgttaaaca ttccgtccct gtttgagaca tcagtatgta cctt 524

<210> 397
<211> 253
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(253)
<223> n = A,T,C or G

<400> 397
ctatagggcg aattggagct ccccgcggtg gcttccgccg ggcaggtaca agcttttttt 60
tttttttttt ttttttttnt tttnngntnt tttttttttt ttnaaaagnc aaaattggtt 120
ttattgncag ccacatattt agtataaaaa gangggcanc aaatggctca gngttgnttt 180
tnaaaaaaat ccaggttgtg caggttgttn tatttacatt tggganaana gntnttccca 240
catnaggcac ctn 253

<210> 398
<211> 204
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(204)
<223> n = A,T,C or G

<400> 398
acaagctntn tttttttttt tttttttttt tttttttttt tttttttttt ttttttgggg 60
tttttaaaaa ctttgtttta tgggaacttg gaggtttaca aaagtagaag gactagtggg 120
ggggacccaa ggtttccatt atgccccccт ccaattatct tttaactagg ttggattcat 180
ttacggtgat ccacagccct gaat 204

<210> 399
<211> 506
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(506)
<223> n = A,T,C or G

<400> 399
acagtcacgg ggcagagctt gcatagggat ccaggtgtta ctagtcttac tctggagctg 60
gtccaactca gtttcatggc acagaactag attaggtctc cactgcgcag tctgttttac 120
tgcttaggga aagccagctt ttctacccac acacgtttag tttgaagagt atctattttt 180
ggagggttct ttgggaggtt gggcaggctt ctttggatcc cagatacatt tagagctttt 240
tgcattaagt gtgaggaaaa taacttctct ttgatgatgt tgatacacca tgtgggcacc 300
ctggggcaca gcggtttagc tggggagatt ccatgagaat gaacccaaac tactcttctt 360
tgctagggtc ctttacccac acagaggtga gcctttcagg ttcttcattt tgcttagttt 420
cttcccttgt ccttggcatt taagaggcat ncatgtgtta gccagccaaa gccccctgaa 480
ggagctggct gctttaaagg atttac 506

<210> 400
<211> 382
<212> DNA
<213> Homo sapiens

<400> 400
acctgctgtg tgcttataat cctgttttaa agcaagagaa aggagccata aaaagattaa 60
aataaatgaa gtctgcagaa ggcaaagcca tttgacatcc tcccaagtaa atcctttaaa 120
gcagccagct ccttcagggg gctttggctg gctaacacat ggatgcctct taaatgccaa 180
ggacaaggga agaaactaag caaaatgaag aacctgaaag gctcacctct gtgtgggtaa 240
aggaccctag caaagaagag tagtttgggt tcattctcat ggaatctccc cagctaaacc 300
gctgtgcccc agggtgccca catgtgtgta tcaacatcat caaagagaag ttattttgct 360
cacacttaat gcaaaaagct ct 382

<210> 401
<211> 575
<212> DNA
<213> Homo sapiens

<400> 401
gaaatggatt cgaaatatca gtgtgtgaag ctgaatgatg gtcacttcat gcctgtcctg 60
ggatttggca cctatgcgcc tgcagaggtt cctaaaagta aagctttaga ggccaccaaa 120
ttggcaattg aagctggctt ccgccatatt gattctgctc atttatacaa taatgaggag 180
caggttggac tggccatccg aagcaagatt gcagatggca gtgtgaagag agaagacata 240
ttctacactt caaagctttg gtgcaattcc catcgaccag agttggtccg accagccttg 300
gaaaggtcac tgaaaaatct tcaattggat tatgttgacc tctaccttat tcattttcca 360
gtgtctgtaa aggtaggcag cttgtgtgat caaattaatt tcacttttgt tctcagcata 420
aatattgttt ttatggatat ttgaactaag cattttctta ggaggacata gggattataa 480
catagaagaa gaatcctaaa tctaactcct aattcctttc tatgggatac attttgaatc 540
catacttccg tgattgcatg tctataagaa aagaa 575

<210> 402
<211> 171
<212> DNA
<213> Homo sapiens

<400> 402
gtaacaactt ggggaaacaa tcccggatgg cacttacata ggcggactgg tccgagaagg 60
tgctgcacaa cgggttccct tctagccata gctcttcgag cttcagccct ttcaccttgc 120
ccaactccca cgctgactcc agcttatttt tggagagatt cagggtcttg a 171

<210> 403
<211> 1042
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1042)
<223> n = A,T,C or G

<400> 403
acttcttcgt catactcact cgttcgtcag tattagtgca catgtctcaa tgtcgttcgt 60
ctttttatta gttattctca ttcaagtcat accatacgtt gcttcacctc tacttctcta 120
catattacat taacgttatt taatcatatt gaggtttatg tgcactatat gggcgaactg 180
gagctacacc gctgtggcgg cctgcccggg caggtacaag cgactatgct agatgcctgt 240
ttaggtagga ctgtgaccgc aggctcatag ctcctttatc tctcctacta ctcagtccga 300
ggaggatgat tatcttgtga gtagacaaat atcatcatct ctatcttcta cacacttcta 360
aatagaatgt tcggctcgcg tataccattg actatttngg tggaaccaaa ccacctatta 420
agtgtcatca actccttcgt ctcactagtg cgttggcgac acaacattac cgtgctcatc 480
gtggatggaa ttatgcattg attaaaaaca cttgactctg taacattctg agtcgggcat 540
actgtatcag gaattccccc ggctaaaatt gtagcaattg attgttctgg gttcctttga 600
aactttgtta cagatgggtc tgttggtctc aagctcgaaa cattcctctt ggcccccaga 660
actttaatcc tctatgagtg ggccaatttt caactattgg tctatataaa taatgccaac 720
ctattcttaa aatccattta gagggttggt tggcggtatc ccatatatct aattatatca 780

aagaatgcct tgggttggtt gaaacaatga caatttcatg ggactcttgg ggcccctggt 840
atgttccact tatcatagga tggtataaaa tgaaatgaat ccattgggtg cgccccacga 900
tacttggtgg tggcacattc ctagccttta tcactcgtgg gtacaatttg tgttatggtg 960
ttattttaaa accacgcttt cctattagaa gagatacccc ctattatatg cgctaagatc 1020
gaaacatatt cctcccctcc cg 1042

<210> 404
<211> 550
<212> DNA
<213> Homo sapiens

<400> 404
actccctttt gatattatac tgatgaatat ttgtaggtgt ttcactataa ggaacagcta 60
aggaataatt ttaataaaag tgaaccagaa caaatcactc atttaaaaag taattcagaa 120
gaacagtgtg gcatgatcag acttctaatt gaatagcgta acaacagtgt ttgtaattat 180
agatttgctt ggacaaaata ttccaggaac tcatagcgag ctcaaagcaa ttaagtggga 240
acatttttaa tttaaaaaaa atttccaaat atttgtgggt ccgacagtaa tgatcaaaat 300
atgaatgact ttggaaaatt tacatgaagc tcaagtgtta ggattgactt atgaaaataa 360
attttatttc tatccaaatt tgaatgtcca aaccattttt tagttacttc tttctaatcc 420
tagttattca gacaaaattt ggaaacttat tttatgacca catctaatat tctggctgct 480
ttggatacaa tactcttaat ttatgataat tagttaaaat atattaaaaa tattattagt 540
aaaataaaat 550

<210> 405
<211> 217
<212> DNA
<213> Homo sapiens

<400> 405
gctccaccgc ggtggcggcc cggggtcccg ccccgaaaag gggctacagc tctgagatga 60
agacggagga cgagctgcgg gtgcggcacc tggaggagga gaaccgagga attgtggtgc 120
ttggaataaa cagagcttat ggcaaaaatt cactcagtaa aaatcttata aaaatgctat 180
caaaagctgt ggatgctttg aaatctgata agaaagt 217

<210> 406
<211> 567
<212> DNA
<213> Homo sapiens

<400> 406
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ctccagagct gtaaccattt ttattagagg aggaaataag atgatcattg aggaggcgaa 120
acgatccctt cacgatgctt tgtgtgtcat ccggaacctc atccgcgata atcttgtggt 180
gtatggagga ggggctgctg agatatcctg tgccctggca gttagccaag aggcggataa 240
gtgcccccacc ttagaacagt atgccatgag agcgtttgcc gacgcactgg aggtcatccc 300
catggccctg tctgaaaaca gtggcatgaa tcccatccag actatgaccg aagtccgagc 360
cagacaggtg aaggagatga accctgctct tggcatcgac tgtttgcaca aggggacaaa 420
tgatatgaag caacagcatg tcatagaaac cttgattggc aaaaagcaac agatatctct 480
tgcaacacaa atggttagaa tgattttgaa gattgatgac attcgtaagc ctggagaatc 540
tgaagaatga agacattgag aaaacta 567

<210> 407
<211> 442
<212> DNA
<213> Homo sapiens

<400> 407
acagaatatt ccaacatgtc tcatatgcaa acaaagcatg tctgtgtcca aagaatataa 60
cctaagacgc cactatcaaa ccaatcacag caagcattat gaccagtata cggaaagaat 120
gcgtgacgag aagcttcacg agctgaaaaa agggctcagg aagtatctct taggctcgtc 180
agacaccgag tgtcccgagc aaaaacaagt gtttgcaaac ccaagtccaa cccagaaatc 240

ccccgtgcag cctgtagagg acctagctgg gaacttatgg gagaagttac gtgaaaaaat 300
caggtctttt gtggcatatt ctatcgcaat cgatgagatc acggatataa ataataccac 360
ccagttggcc atattcatcc gtggtgtcga tgagaatttc gatgtgtccg aagaacttct 420
ggacacggtg cccatgacgg gt 442

<210> 408
<211> 567
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(567)
<223> n = A,T,C or G

<400> 408
actttgtgag accagatctc catttttttc caatgggaaa ttattgcaag ttcctacatc 60
ttgatattgc tttcataatt tatactaaca taaaataata tttttcactg ttttgcaatg 120
tctttttaat ttctgtattg cagctagagg aagtccaaag aaaacttgga tttgctcttt 180
ctgacatctc ggtggttagc aattattcct ctgagtggga gctggaccct gtaaaggatg 240
ttctaattct ttctgctctg agacgaatgc tatgggctgc agatgacttc ttagaggatt 300
tgccttttga gcaaataggt agatggtttg gtggtgtgga agcttggaag cggtcaggta 360
gttggctact ttctgcttgg atctattaaa tacctggcag ctctctgtct ttntgtgggt 420
tgttgccctg tgattagttc tgctttttaa cccactccct ggatgcattt ttcccttctt 480
gcatttccct tcttttctgg aagtcatact agagaatctg cactatgttt ttccctttttt 540
gtcttgagat gaaagtttta aaataat 567

<210> 409
<211> 450
<212> DNA
<213> Homo sapiens

<400> 409
cctacctggg agagacgtgg tctttttata aaacttgtga atctttgcct tttgaagaat 60
ttaacatgga ccttttcgag aggctcctct gtgttcataa tttgccaaaa aattacaaaa 120
gcctgtgatt tttaacatcc ctgttatgct gatttctctt aaagtgggtc ctatttgcat 180
aacgagagag tggggaactg aatgcttatg cccaatgaga gttctggagg gttcaaagga 240
tgaaagaagg acctttgtcc ctgcggtctc tgcagggaca cccccctcaa caccatctgc 300
ctctaactct gacctgggga cctatccctg tgagccttgt ttgcctcagc tctggaagct 360
gacttctgaa gatgactgcc tcaccttgca ctgtctggaa aacttgaatt attttacgcc 420
gtgaaagaaa aagaaaaaaa aaaaaaaaat 450

<210> 410
<211> 250
<212> DNA
<213> Homo sapiens

<400> 410
gcgcttccgg ccattcatac tgcagtcggt cagtgttcgg ttgaaggatt ctgtgtgctg 60
tcggacccag agggtgacgg cgccgctagg atgaagctcg tgaagatttt tgaatgaaat 120
tgagtcatga aactgtaacc attgaattga agaacggaac acaggtccat ggaacaatca 180
caggtgtgga tgtcagcatg aatacacatc ttaaagctgt gaaaatgacc ctgaagaaca 240
gagaacctgt 250

<210> 411
<211> 337
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(337)
<223> n = A,T,C or G

<400> 411
actgctttca tccgatttag atgcacttcc tattgatgat gaagaaggcc caccaccagg 60
cccattttgc acactggcaa ctgcattcct cggagggggg tcnnnnnnnn nnnnnnnnnn 120
nnnnnacaag cttnnnntnn tttttttttt tttttttttt tttttttag gattctaaca 180
ctttattaag aggtcacaag ccacaggact ttaaagtgca tgaaatttat tggcaatgaa 240
gccgcatgta taccaggctt ccctagtccc caccaccttg ccccattcat tattacgtgg 300
tggggagggg tttgagaccc attttttaaa atgggggg 337

<210> 412
<211> 216
<212> DNA
<213> Homo sapiens

<400> 412
gtaacaactt ggggaaacaa tcccggatgg cacttacata ggcggactgg tccgagaagg 60
tgctgcacaa cgggttccct tctagccata gctcttcgag cttcagccct ttcaccttgc 120
ccaactccca cgccgactcc agcttatttt tggagagatt cagggtcttg actttgggag 180
ccttctctgt aatgtcagaa aggccatcca gctggt 216

<210> 413
<211> 132
<212> DNA
<213> Homo sapiens

<400> 413
actgataact tcttgcttca gttcatctac aatgatcttt ccctctaaat cccagatctt 60
gatgctgggg cctgtggcag cacacagcca gtagcggtta gggctgaagc acagggcgtt 120
gatgatgtcc cc 132

<210> 414
<211> 481
<212> DNA
<213> Homo sapiens

<400> 414
gtggaactga ggatgcagca ttcaaggttc tatcttggaa gcagagactg tgccctcacc 60
agatgctgaa cctgctgagc accctgatct tccacttcac cttcatcaga actactgggg 120
ctgtggctga gatgtcacat ggcagatagg atcacaaatt tctgttgtat ctggatggag 180
atcagcagga ggatctatgg gtgagaagaa gcacagttac agatggattc tagagcctgc 240
ttgctgacac aggcttgcaa ctgcggactt tataagctta gtttttaatc tgctatcagc 300
tagcataata ccataaatgc ataaaaaact aagtattcag tcttacgaga aatgctatct 360
tgacctgacc ctttctccaa ataaattgac aaaatatctc atcgtctagg atgccagaca 420
gaaataccag ttgcaatgtt ttgttgcata aagtttatcc taatttaaat tagtggcata 480
t 481

<210> 415
<211> 216
<212> DNA
<213> Homo sapiens

<400> 415
gtaacaactt ggggaaacaa tcccggatgg cacttacata ggcggactgg tccgagaagg 60
tgctgcacaa cgggttccct tctagccata gctcttcgag cttcagccct ttcaccttgc 120
ccaactccca cgccgactcc agcttatttt tggagagatt cagggtcttg actttgggag 180
ccttctctgt aatgtcagaa aggccatcca gctggt 216

<210> 416
<211> 216

<212> DNA
<213> Homo sapiens

<400> 416
gtaacaactt ggggaaacaa tcccggatgg cacttacata ggcggactgg tccgagaagg 60
tgctgcacaa cgggttccct tctagccata gctcttcgag cttcagccct ttcaccttgc 120
ccaactccca cgccgactcc agcttatttt tggagagatt cagggtcttg actttgggag 180
ccttctctgt aatgtcagaa aggccatcca gctggt 216

<210> 417
<211> 415
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(415)
<223> n = A,T,C or G

<400> 417
accagctccc aactcaggta aaaatccact gagaaaataa ataactgctg aaggcagggg 60
ctcatgcctg tagtcacagc actttggggt tactacgctt tggtcgaggt gggaggactg 120
cttgagccca ggagtttgag accagcctgn gaaacacagg gagactcttg tttcaacgac 180
aaacaaaaat ttaaattagc catgtgtggt ggtgtgcacc tacagtccca gctactcggg 240
aggctaaagc aggaggatcg tttgagcctg ggaggtcaag gctgcagtgg gccaagatca 300
tgctgctgca ctctagcctg cacgacagaa caagaccttg actcaaaaat aaataaacaa 360
atagataaat aaataactta agtgatgaat taaggactta agtaatattg tcagt 415

<210> 418
<211> 159
<212> DNA
<213> Homo sapiens

<400> 418
acaagctgtt tttttttttt tttttttttt ttttccgggg aaaagatata tatatatata 60
ttcagaatta ggcagctgga ctcagtttag atgatcccaa ttttgttggc aacatccaaa 120
gcatcgtaat caggagccag tcgaacatat gccttttttt 159

<210> 419
<211> 159
<212> DNA
<213> Homo sapiens

<400> 419
acaagctgtt tttttttttt tttttttttt ttttccgggg aaaagatata tatatatata 60
ttcagaatta ggcagctgga ctcagtttag atgatcccaa ttttgttggc aacatccaaa 120
gcatcgtaat caggagccag tcgaacatat gccttttttt 159

<210> 420
<211> 422
<212> DNA
<213> Homo sapiens

<400> 420
gcgtccgatt tatcatcatg tactctctga catatcagga aaggtgttgg ttgacatcag 60
ctccaggcct agcatagtcc tttatggggt actgggcagc gtgcagacat caacatttgg 120
aaagcatttt cttctgctag caacagcttt gcctgtcagc atccaagggt tatctttcca 180
gttcagcagt gcaactctat ggagtagaat tgaaaggaga cttttcgcca attgcaggaa 240
atggtcataa aaaaatacct gctcactgac agaataaagg taccttttaa cttagtcaaa 300
tctcttttgc attgttttcc aatctgttct tggttgccat tgtatagaaa cagattgaat 360
actcttaaat attttaaaac attaatagag atgaattggt ggaattatat cctattcaca 420

ta 422

<210> 421
<211> 566
<212> DNA
<213> Homo sapiens

<400> 421
actttgcaa aaagtcgact gtgactgtgt agcattatgt tctgtagaat ttttttcaag 60
tagcataatt attcattggt gtgaaaacag ccaaaggttc cgatatcctc acaaatcatt 120
tatgccaaac atctgagggc aaaatttagc cggtgttatt tactagattc ttccctttga 180
actcacagac tcaagagaca gaccaagagt tcttatatac tcaccacagc ggaccaatcc 240
aagtggcatt tttaggaaag gttgcagcat ttaatgccat gtggtacgtc tgttcgtcaa 300
gtgggtggca agggaatatc caagctggca ttttggatat gatgggcctt ttactttcct 360
gagtgacatg ccacatgtca agaaatactg ctccccaccc ccccactccc atcacattta 420
cgtgaacaat tttcatttag ttatttcccg ttccatatgg tgttaaaaca gtcgtattaa 480
ataaagatta tttctagttt tcagtggtaa tttaaatgag aggatatgta ataattgctt 540
attagatact tatccaaatg aaatat 566

<210> 422
<211> 357
<212> DNA
<213> Homo sapiens

<400> 422
actactgagt cttgatgtct gtgcttgcgc tctctctctc tctctctctc tcctctctct 60
ctggggtgtg ttgtgttgtg acatcttacc cactcagtta ctcccaaggt agcagaagaa 120
aaaaaaaaaa gcaggaggca gaggatgcct tgaaagacaa taaggagaag cctggtgtgg 180
tggtgcaaac ctttaatccc aacatcgggg aggcaaaggc atgtagatat cagatcagag 240
ttccaggaca tccagagcca cctagggggt tcctgtgtca aaaaaaggaa ggaggaagga 300
aggaaagaag gaaggaagga aagaaggaag gaaggaaagg aaaggaagga aggaaac 357

<210> 423
<211> 452
<212> DNA
<213> Homo sapiens

<400> 423
acctgagaag gcagctcacg aaacccaggc ctgtgatcct ggacccggcg gaccctacag 60
gaaacttggg tggtggagac ccaaagggtt ggaggcagct ggcacaagag gctgaggcct 120
gctgaattac ccatgcttta agaattggga tgggtcccca gtgagctcct ggattctgct 180
ggtgagacct cctgcttcct ccctgccatt catccctgcc cctctccatg aagcttgaga 240
catatagctg gagaccattc tttccaaaga acttacctct tgccaaaggc catttatatt 300
catatagtga caggctgtgc tccatatttt acagtcattt tggtcacaat cgagggtttc 360
ttgaattttc acatcccttg gccaggattc aattccctaa gaggtataat aaattaatct 420
tttaacagca aaaaaaaaaa aaaaaaaaaa aa 452

<210> 424
<211> 408
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(408)
<223> n = A,T,C or G

<400> 424
ctgttttgta ggttttcttt ttctctgatt tcaattagaa tcagaaaact tggcagtatt 60
gggtttgaat tgccacttgg caataatagt cagctgggtt gccccccttta aaatagataa 120
gcattctcta gtttgccaca ggtgacacta cccccattgc ctcttcagct cactcattca 180

catttcctga tgggcatctg caggtgtatc tttgaccgct gtctggatgt tggaatgagt 240
ggttcgctga gcaggcagcc tgactcctgt gtatctccca tgattgtcca agcatcactt 300
attgctcctt gaccctgtct ttntactgac gtagttgagt gttgtgcagc cttttatttt 360
agaggcaggg tctcgctctg tcacccaggc tggagtacct gcccgggc 408

<210> 425
<211> 472
<212> DNA
<213> Homo sapiens

<400> 425
acgtgtgagt gtgtgtttgt atacgtctgg caattaaagc tttgtcttct ggaacttaat 60
gaattctttt ctctttttcc tccagaagta tttgttacaa gatttgtaaa taagagctct 120
acttagtttg tttaccatga acatgttgca gcaaacctta tgcatctaat tcctacaagg 180
ttaaagaaag gcttttagac ttgccaggtt aagcaacagc caagttctca gtaattgttt 240
gccttgattt atcttttaaa cttcattttg ccaactttaa aactcccagg cttccttgat 300
tttagacctt aatcttttat gttctgagca agaagggtaa aagacaggaa ccctgcttta 360
ctgtattaac tagtccatgg gctgagaccg gggcatctct ttttttcata cctgcaatgg 420
tggtagatac atgatcagac cccagagggt tgggcattct tgcaaatacc tt 472

<210> 426
<211> 450
<212> DNA
<213> Homo sapiens

<400> 426
cccacgcctc cggtcctacc ctttgtgttt catcttctcc agccctgtgg gctgcaagcc 60
ggaacaacag atgatgtatg cagggagtaa aaacaggctg gtgcagacag cagagctcac 120
aaaggttcag actgggatgg ggctccagag tgttagggag aggtggtgtg ggtcctgggt 180
ctcagtgttt gagtagatca taatgccaag gcctccccta cctcaaaccc cagctgggcc 240
cgcttagccc accaggcatg aggccaaggg ctccactgac caggaggccg aggtctctaa 300
ctcttatctt ccacagggtc caagagttca tcaggacccc caagagtgag tgaggggggca 360
aggctctggc acaaaacctc ctcctcccag gcactcattt atattgcttt gaaagagctt 420
tccaaagtat ttaaaaataa aaacaagttt 450

<210> 427
<211> 380
<212> DNA
<213> Homo sapiens

<400> 427
tttttttttt tatcccttga gtttattagg caaccttggt ctacactctc aggagaggag 60
tgcaccagaa ataaagcttg gtgccctgga gtccacctgg agccaggcgc ggggcgctgc 120
acttaggttg gcagaagccc gttagcgcgc agctccagca gcggggacag cgtgtagcgc 180
aggcggcgca gcgtcgtctc cgaggtgagg ctccagagcc acgcggagac ggcgccgggg 240
tccaacagca ccgtccagag cagcgacagc cccaggaaga ggagcggcag cgtcagcagc 300
acctgcagcg cgcccagcac gcaccgcctg atggccagcg cgcgagggcc gccgaacagc 360
cgcgtctctc ggtccgccct 380

<210> 428
<211> 499
<212> DNA
<213> Homo sapiens

<400> 428
ggcggccgag gtacattgaa agccatgttc ccttgtagaa agaaaaatgc tgttgccttt 60
tgggttgatt ctattatctg atgttttatt aatctctgtg aaataattgt gtaaattaat 120
atagagacta gttgagaaat ggtggataac atgaagaaga tacccatttt tgcatagatt 180
agatgtgatc aacctcacac tatcatatga aagttggctg cattggagag acaggaatta 240
atattaaaaa tgttttcagt tcagattgat atcttacatt tccaaatatt attttctttt 300
gaatatgtgg tataagtaat ctgctttaag tcctatttta agttgggtgc agtggctcgc 360

acctgtaatc ccaccatttt gggaggttga gaccaggagt ttgagaccag cctgggcaac 420
agagtgagac cccatcttta tagaaaataa aaaattagcc aggcatgatg gcacgtgcct 480
gtagttctaa ctacttgga 499

<210> 429
<211> 300
<212> DNA
<213> Homo sapiens

<400> 429
actacaaagc tcagtcccca gatgaggggg ccctggtcac cgcagccagg aactttggtt 60
ttgttttccg ctctcgcacc cccaaaacaa tcaccgtcca tgagatgggc acagccatca 120
cctaccagct gctggccatc ctggacttca acaacatccg caagcggatg tcggtcatag 180
tgcggaatcc agaggggaag atccgactct actgcaaagg ggctgacact atcctactgg 240
acagactgca ccactccact caagagctgc tcaacaccac catggaccac cttaatgagt 300

<210> 430
<211> 392
<212> DNA
<213> Homo sapiens

<400> 430
gtggaactga ggatgcagca ttcaaggttc tatcttggaa gcagagactg tgccctcacc 60
agatgctgaa cctgctgagc accctgatct tccacttcac cttcatcaga actactgggg 120
ctgtggctga gatgtcacat ggcagatagg atcacaaatt tctgttgtat ctggatggag 180
atcagcagga ggatctatgg gtgagaagaa gcacagttac agatggattc tagagcctgc 240
ttgctgacac aggcttgcaa ctgcggactt tataagctta gtttttaatc tgctatcagc 300
tagcataata ccataaatgc ataaaaaact aagtattcag tcttacgaga aatgctatct 360
tgacctgacc ctttctccaa ataaatggac aa 392

<210> 431
<211> 429
<212> DNA
<213> Homo sapiens

<400> 431
actgatcact acatcatggc ccgggtcctt tttgtgctga ttgtgctgag ccagctcacc 60
attctcatta tttttagata tcgaggatac ccagagctta aagaaccttc agggtttata 120
aatctgacct cattttctct tcatgtcttg agcaaaataa acatcttcta ctattctgtg 180
ttgttgttga ccctgtatac agtgctgggt ccatggtttt ttggtgaaat cattgatggc 240
aaatttggtt gctgcttttc ctttgggata tttgttaatg gacatttcct acaaggcagc 300
ataacattta taattggaat tctccagctg gcgtttttta acatcccctt gatggcttac 360
atgtgttgga gcttgctgca gcggtgcttt ggtcacaact tcaggtctca tctccatcaa 420
agaaaatac 429

<210> 432
<211> 482
<212> DNA
<213> Homo sapiens

<400> 432
cacgcgtccg gcaacggcaa gggccgcagc cagcaccggg cggagagggc taccatgggg 60
aaaatcgcgc tgcaactcaa agccgcgctg gagaacatca ccaacctccg gcccgtgggc 120
gaggacttcc ggtggtacct gaagatgaaa tgtggcaact gtggtgagat ttcggacaag 180
tggcagtaca tccggctgat ggacagtgtg gcactgaagg ggggccgtgg cagtgcttcc 240
atggtccaga agtgcaagct gtgtgcaaga gaaaattcca tcgagatttt aagcagcacc 300
atcaagcctt acaatgctga agacaatgag aacttcaaga caatagtgga gtttgagtgc 360
cggggccttg aaccagttga tttccagccg caggctgggt ttgctgctga aagtgtggag 420
tcagggacag cctttagtga cattaatctg caggagaagg actggactga ctatgatgaa 480
aa 482

<210> 433
<211> 541
<212> DNA
<213> Homo sapiens

<400> 433
acccagagtt gcgaggagtt ttttaactga tttagccagg tggcaatcat gagtgaatgg 60
atgaagaaag gctccttaga atggcaagat tacatttaca aagaggtccg agtgacagcc 120
agtgagaaga atgagtataa aggatgggtt ttaactacag acccagtctc tgccaatatt 180
gtccttgtga acttccttga agatggcagc atgtctgtga ccggaattat gggacatgct 240
gtgcagactg ttgaaactat gaatgaaggg gaccatagag tgagggagaa gctgatgcat 300
ttgttcacgt ctggagactg caaagcatac agcccagagg atctggaaga gagaaagaac 360
agcctaaaga aatggcttga gaagaaccac atccccatca ctgaacaggg agacgctcca 420
aggactctct gtgtggctgg ggtcctgact atagacccac catatggtcc agaaaattgc 480
agcagctcta atgagattat tctgtcgcgt gttcaggatc ttatttgagg acatcttaca 540
g 541

<210> 434
<211> 357
<212> DNA
<213> Homo sapiens

<400> 434
accttcagag aaaaccaaac agcctaaaga atgtttttttg atacaaccaa aggaaagaaa 60
agagaatacc accaagacca ggaaaagaag aaagaagaaa attactgatg ttcttgcaaa 120
atcagaacca aaaccagggt tacctgaaga cctacagaag ctgatgaagg actattatag 180
cagcagacgc ttggtgattg aattagaaga actgaacctg ccagactcct gtttcctcaa 240
ggccaatgat ttgactcaca gtctttcctc atacctaaaa gaaatttgtc ctaagtgggt 300
aaaacttagg aagaaccaca gtgagaagaa atcggtcctg atgctgatca tctgcag 357

<210> 435
<211> 482
<212> DNA
<213> Homo sapiens

<400> 435
actcacagct gctatcaggt catcaagagt gtcggtaagc gtctgagctg gagttgcaac 60
cattagtcca tctggttctt gaactaacag cccctgatca tgtccagtaa tagcaatctg 120
aggctgtcct acaatctgct gattacctga tactttctga agttcaagag aatttgtccc 180
attagaacct aagtcactgg aaaagttaca ctgtggagat gataaaggct ggactgggac 240
aaaatcaatc tgttctgccg atggtggaga ctgttgctca tcatcaacat cattatcttt 300
aaataagatt gtgtcaacct gaggtaactc tgaaaagtga tcctctggga gactaccatc 360
tccttcccct tctgggaaga ctcctctatg agagcactgt tggtgtagag acactgtgtc 420
tttctgacct ttggtttcca agtattcttt ggtgaattgc tgctgtgttt tcatctgcaa 480
ct 482

<210> 436
<211> 265
<212> DNA
<213> Homo sapiens

<400> 436
gccgggggct gggatcacca tgccccttgc ccgtctcgca ccttgctgct gtctgtaacc 60
ccccagcacc tcccgcaggc ctggacgtct tatccctctc cttagcccca ggagcgtgtt 120
tcaggaactc tcctcacctc tgtgtcttgt gttttgcagt gatcagggcc aaagcggtca 180
gtgagaagga agtggactct ggaaacgaca tttatggcaa ccctatcaag aggatccagt 240
atgagatcaa gcagataaag atgtt 265

<210> 437
<211> 368

<212> DNA
<213> Homo sapiens

<400> 437
actcatccag gtagtaggcc atggtggcgt gttcctgctc gttcagcagg tgccgagcct 60
gctcctccag cagcactcgt gtctggttcc ccaggctgct cagggtcacc tgggagccgg 120
ctgggccctt gtaaaatcct ggcttgttta ttccttctgt tgtgagatcg ccaagaaacc 180
tgtggggaaa gacacacatc tccagttgtg catttgagca gatcaaatgg gcgtgggcaa 240
gggacagggt gacttggggc aggaagagca aagcttcaag agaaccatgc atcgtggcct 300
ccactcgctg ccagttcagt ctgggggcta ctcaagggta aaggaaactc cggacagact 360
ggcagcgt 368

<210> 438
<211> 517
<212> DNA
<213> Homo sapiens

<400> 438
aatgaagaaa aaagtactgt gacctgagag acaccctcct ctagaattta gtggcgggtc 60
tgggctggca gaggtagggg gctgctttgg gctttgcacc tgcactttgg tgacattgtt 120
cttctgtgtt ccctttattt atgctggtgg cttccatccg ttcctcctct gagggtgagt 180
ggaggggtat atggaaacac ggctatgacc aaagggagat cccagcctgg gcaggctgcg 240
ctgctgacca ccctccctgg ggcccgggct ctgtaggaaa gttggtcctt gactgtggca 300
ttgcactctg cactgtttct ctctgcagac ctaggggaaa actgcaagtg gaagtgcttt 360
tctactaagg cctcttactt tggggggggat gtgccctaca gaagacatag aagatgggga 420
aatgccaatg ggcaaagagc tactttgaat acataattct ctttaaagac ttcaacagca 480
aaccaaaaca gcatgtttaa aaaaaagatg ctttttt 517

<210> 439
<211> 411
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

<400> 439
agacaataca cattccaact atggagaatg gtcctaagct ggcaagccgc atcttgagca 60
aattaactga tatccagtat ggaagagaag agagcgactg gacaattgtg ctatcctgaa 120
tggaaaatag aggatacaat ggaaaataga ggataccaac tgtatgctac tgggacagac 180
tgttgcattt gaattgtgat agatttcttt ggctacctgt gcataatgta gtttgtagta 240
tcaatgtgtt acaagagtga ttgtttcttc atgccagaga aaatgaattg caatcatcan 300
atggtgtttc ataacttggt agtagtaact taccttacct tacctagaaa aatattaatg 360
taagccatat aacatgggat tttcctcaat gattttagtg cctccttttg t 411

<210> 440
<211> 490
<212> DNA
<213> Homo sapiens

<400> 440
actttttttt tttttttttt ttttttttta aaacccgggg cccaaattta aaaaaaaaag 60
gccccaaacc ccccggaagg gggaaccccc cccaaacccc ggggcaaaaa agggggggaaa 120
aaaatgggtt aaaaaaccaa aaaaggccgg cccaaaaaaa aaacccctgg gaaaattcct 180
ttgggaaacc accccccctt taaaaacccc cccccaaagg ggtttttccc ggaaagaatc 240
caaaaagttg ggggggggctt aaaaagggcc ccttacatta aaaaattttt ttttttgccc 300
cccttaaaaa agaaaccccc cccctttcca aagatttaac ccgggggggg gggggggggga 360
aacaaaatgg ggaaaacccc cccccccccc ccccgggggg tttcccgggt tcccaaaaaa 420
cccggggggg gggccccggg ttttttaaaa aatttttttc ccgggaaaaa caaaacaggg 480

ggaaaaaaaa 490

<210> 441
<211> 488
<212> DNA
<213> Homo sapiens

<400> 441
agtcgccacg cgtccggctg agccccatcg gctggagctg agccgcacct gcgagttgca 60
tctgggatct ccagttcacc ggcccctaag ctcctgagag gttggcctga ccctgaagtt 120
gcctgtcaat caccatttct tccctccact ccttgtgtta cctgcctggt cctgcggagt 180
tggcaacaac tcaggagccc acctcgggtg gttttggagg tgccgtgcac actgctgatt 240
gggaggctgg acgctgccag tctgtccgga gtttccttta cccctgagta gcccccagac 300
tgaactggca gcgagtggag gccacgatgc atggttctct tgaagctttg ctctttctgc 360
cccaagtcac cctgtccctt gcccacgccc atttgatctg ctcaaatgca caactggaga 420
tgtgtgtctt tcccacaggt ttctggccga tctcacaaca gaaggaatta acaagccagg 480
attttaca 488

<210> 442
<211> 233
<212> DNA
<213> Homo sapiens

<400> 442
ctctgccccc tacgccatcc cgacacgtcc cgtccccgaa cctggtcagt gcaatactcc 60
attgcctggg gtccttcacc atggattttt ttggaaacct ctgcgccatg agagccaagt 120
ggaggaagaa gcgaatgcgc aggctgaagc gcacaagaag aaagatgagg cagaggtcca 180
agtaaaccgc ttgcttgttg caccgcggag gccaccagag cacaaacatg gaa 233

<210> 443
<211> 355
<212> DNA
<213> Homo sapiens

<400> 443
ctccctgcgc cacacggccg tcgccatggt gaagctgagc aaagaggcca agcagagact 60
acagcagctc ttcaagggga gccagtttgc cattcgctgg ggctttatcc ctcttgtgat 120
ttacctggga tttaagaggg gtgcagatcc cggaatgcct gaaccaactg ttttgagcct 180
actttgggga taaaggatta tttggtcttc tggatttgga ggcaatcagc ggacagcatg 240
gaagatgtgt gctctggctc ggataagaga tgggacatca ttcagtcact agttggatgg 300
cacaaggctc ttcacagacg catctgtagc agagtggaac ttgtacctgc ccggg 355

<210> 444
<211> 399
<212> DNA
<213> Homo sapiens

<400> 444
tatgtacagt cacggggcag agctggcata gggatccagg tgttactagt cttactctgg 60
agctggtcca actcagtttc atggcacaga actagattag gtctccactg cgcagtctgt 120
tttactgctt agggaaagcc agcttttcta cccacacacg tttagtttga agagtatcta 180
tttttggagg gttctttggg aggttgggca ggcttctttg gatcccagat acatttagag 240
ctttttgcat taagtgtgag gaaaataact tctctttgat gatgttgata caccatgtgg 300
gcaccctggg gcacagcggt ttagctgggg agattccatg agaatgaacc caaactactc 360
ttctttgcta gggtccttta cccacacaga ggggagcct 399

<210> 445
<211> 575
<212> DNA
<213> Homo sapiens

<400> 445
gcgtccgcac gaaggtagtg aggcctagtg gaaagccatg gagagcgctc tccccgccgc 60
cggcttcctg tactgggtcg gcgcgggcac cgtggcctac ctagccctgc gtatttcgta 120
ctcgctcttc acggccctcc gggtctgggg agtggggaat gaggcggggg tcggcccggg 180
gctcggagaa tgggcagttg tcacaggtag tactgatgga attggaaaat catatgcaga 240
agagttagca aagcatggaa tgaaggttgt ccttatcagc agatcaaagg ataaacttga 300
ccaggtttcc agtgaaataa aagaaaaatt caaagtggag acaagaacca ttgctgttga 360
ctttgcatca gaagatattt atgataaaat taaaacaggc ttggctggtc ttgaaatcgg 420
catcttagtg aacaacgtgg gaatgtcgta tgagtatcct gaatactttt tggatgttcc 480
tgacttggac aatgtgatca agaaaatgat aaatattaat attctttctg tttgtaagat 540
gacacaattg gtactgcctg gcatggtgga aagat 575

<210> 446
<211> 179
<212> DNA
<213> Homo sapiens

<400> 446
atttggccct cgaggccaag ttttttttata tttaaaaatt caaaaagcct aaaccagtac 60
ttcggcaatc ataattacaa gagctttaaa tatctatctt ttctgaagat tgatgttaat 120
tgggtccttg aagttctaga agggtggttc tttcctgggt gattttgtcc cccaaaaga 179

<210> 447
<211> 389
<212> DNA
<213> Homo sapiens

<400> 447
acacttatcc ctaccttcat gttccagtgg aagaccttag taaaatcaaa gatcagtgag 60
ttcatctgta atattttttt tacttgcttt cttactgaca gcaaccagga attttttat 120
cctgcagagc aagttttcaa aatgtaaata cttcctctgt ttaacagtcc ttggaccatt 180
ctgatccagt tcaccagtag gttggacagc atataatttg catcattttg tcccttgtaa 240
atcaagatgt tctgcagatt attcctttaa cggccggact tttggctgtt tcctaatgaa 300
acatgtagtg gttattattt agagtttata gccgtattgc tagcaccttg tagtatgtca 360
tcattctgct catgattcca aggatcagc 389

<210> 448
<211> 490
<212> DNA
<213> Homo sapiens

<400> 448
acttgtttgc aagcaggact ttgaggcaag tgtgggccac tgtggtggca gtggaggtgg 60
ggtgtttggg aggctgcgtg ccagtcaaga agaaaaaggt ttgcattctc acattgccag 120
gatgataagt tcctttcctt ttctttaaag aagttgaagt ttaggaatcc tttggtgcca 180
actggtgttt gaaagtaggg acctcaaagg tttacctaga gaacaggtgg tttttaaggg 240
ttatcttaga tgtttcacac ccggaagggt tttaaaacac taaaaattta taaatttata 300
gttaaaggct aaaaagtata atttattgca gagggatggt tcataagggc cagtatgatt 360
ttataaattg caattctccc cttgaattta aacaacacag atacaacact acacacacac 420
accacacaac aaaacctttc tgccttttga tgtttacagg atttaattac aagttttatt 480
ttttaaaaga 490

<210> 449
<211> 175
<212> DNA
<213> Homo sapiens

<400> 449
actaaccact cccaacccca acccccagtg tagagtgccc taagagtaaa agaactgtaa 60
tgaggacaat ctggtatcca aattcattca agtgtgttac tgagctgttt agcaacaaca 120
tatgtagcaa tcaccctcaa aacgcaagct gcacctctgg ggaggaagcc ctggt 175

<210> 450
<211> 524
<212> DNA
<213> Homo sapiens

<400> 450
acccacgtcc tagggaagga gaagatcgcc agcatgctgc cggagcagct ctacttcctg 60
cagagccccc ggaggaggag cccgaatacc accccgacgc ctcagcccaa gaatcatttg 120
ctgtttcaaa tagagaactg tgcgatgatg agaaagagtt catacatttt ccagtatgtg 180
aggggacctc tcaacctgaa ccctcgtgtt cagctgtcag aataacagcc aataaaaact 240
acaggagcaa aacctctcag gaaggtgctt taaaaaagat gcatgaggaa gaacaccatc 300
aacaaatgtc catcttacaa ctgcaactga tacaaatgaa tgaggtgcat gtggccaaaa 360
tccagcagat agagcgagag tgtgagatgg cagaggagga acacaggata aaaatggaag 420
ttctcaataa aaagaagatg tattgggaaa gaaaactaca aacttttacc aaggaatggc 480
ctgtttcctc atttaaccgg ccctttccca attcgcccta agac 524

<210> 451
<211> 425
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(425)
<223> n = A,T,C or G

<400> 451
actttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 60
tttttttttt tttttttttt tttttttttt tttttttttt tttttttttn nnaaaaaaaa 120
aaaaaatttt aaaaaaaaaa aaaaaaaaaa aaaatttccc ccaaaaaaaa aaaaaaaggg 180
tttttttttt tttccccccc ccgttttttt taaaaaaaaa aaaaaaaagg gggtttttcc 240
aaaaaaaaaa aaaatccccc cccccaaaa aaaaaggggg gggtttttaa aaaaaaaaaa 300
cttttttaa aaaaaaaaaa gggtttttt tttttttttt ttggaaaaaa aaaaaaaaaa 360
aaaaaaaata tttttttttt tttttttttc ccaataaaaa aaaaaaaaac cccccccctg 420
ggggg 425

<210> 452
<211> 262
<212> DNA
<213> Homo sapiens

<400> 452
acgatgggcg gcagcagcca tatccatagc ctccaaagcc agagccatat ccgtagcctc 60
caaagccaga gccatatccg tagcttccaa agccagagcc atatccgtag cctccatagc 120
cacagccaga accccgtctg cagaagctgc cacatccaca gccatagcca tagcccaggc 180
caccgaagcc tccacagctg tagcccaggc ctccgtagta gctgccgtag tgactcatgg 240
tgtaggagtg tgagtggttt gt 262

<210> 453
<211> 335
<212> DNA
<213> Homo sapiens

<400> 453
taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaagggggg 60
ggccccccttt cttttttttta aaaaaaaaac cccccccccc cccccccgga ccctaaaaaa 120
aaaaaaaaac cccctggggg gggaaacctt ttttttgccc cttttttggg ggcccaaaaa 180
aacccttccc cccccaattt tccaaaaaaa accttttttt cccccccttt tttggggggg 240
gggccccccc ccccaagggg tttttttta gggggggccc cccgggcccc cccccaaaa 300
aatttttttt tcccccttccc cccaaaataa ccccg 335

<210> 454
<211> 235
<212> DNA
<213> Homo sapiens

<400> 454
gggaaggtca gcgccgtaat ggcgttcttg gcgtcgggac cctacctgac ccatcagcaa 60
aaggtgttgc ggctttataa gcgggcgcta cgccacctcg agtcgtggtg cgtccagaga 120
gacaaatacc gatactttgc ttgtttgatg agagcccggt ttgaagaaca taagaatgaa 180
aaggatatgg cgaaggccac ccagctgctg aaggaggccg aggaagaatt ctggt 235

<210> 455
<211> 364
<212> DNA
<213> Homo sapiens

<400> 455
actagtggat gggggtcagg gtgtcactcc aaggccctct acagacccag agaagaggaa 60
agtcaaaaaa gccagatatg agactgctga agtggtgtta agaaatatag gcaaggtaaa 120
gggaacaagg atctgggctc cctcctactt gtgtccctca ctggacctca tacaccctac 180
ctctaagact ggttcttaga aggctgaaca gttaggagca ttccaatagc ttttgaaact 240
cccaaggctg tttcaagtag tcgaaagcca ttcctggact gttcaggtgc cttttctatt 300
tcccacctga gctctttgcc ctttctttga gcctcacagg ttttccgaat ttacagtacc 360
ttgg 364

<210> 456
<211> 274
<212> DNA
<213> Homo sapiens

<400> 456
acaagttctg ctacgaggtg gccctggaat acttgaattc tggctgatgg tgtaaacagc 60
tctgcaaaca atccctttca taccacaaag ccaagacgtt ccatggtatt tgtgcaaaag 120
agatgaagac ttctcaatat gcttattttg ctttgcataa ttggctcttt ttaagagccc 180
aagaaagtgt ttctaaaatt gcttgcactg cccaatccca gtaatgctgc tgcctgacag 240
aaacacacac acagccacag ttgccaaatc ccgt 274

<210> 457
<211> 237
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(237)
<223> n = A,T,C or G

<400> 457
ggagaatggc ccagtcctct cccaattcca cacaggggag gtgatagcat tgctttcgtg 60
taaattatgt aatgcaaaat ttttttaatc ttcgccttaa tacttttta ttttgtttta 120
ttttgaatga tgagccttcg tgccccccct tccccctttt ttgtccccca acttgagatg 180
tatgaaggct tttggtctcc ctgggagtgg gtggaggcag ncnggggctt aacctgt 237

<210> 458
<211> 136
<212> DNA
<213> Homo sapiens

<400> 458
gggtctgaga cctgtgctgc ttggtgcacc cagtgtgagt catgaaaggc cctctgtggt 60

gggcatcaca ggtctccttg agtttattgc tgtgcaaagt ggaggacttt agtttctttt 120
tcaacatcaa gctgtg 136

<210> 459
<211> 136
<212> DNA
<213> Homo sapiens

<400> 459
gggtctgaga cctgtgctgc ttggtgcacc cagtgtgagt catgaaaggc cctctgtggt 60
gggcatcaca ggtctccttg agtttattgc tgtgcaaagt ggaggacttt agtttctttt 120
tcaacatcaa gctgtg 136

<210> 460
<211> 247
<212> DNA
<213> Homo sapiens

<400> 460
acctgagact tccagtggat gagggtcagc ctctggagct gtgaaaacct gggccgacag 60
cggaggcaga gctgcactaa tgttcccaca cgagtccttc ccacccaaca ccttggtgca 120
gggagacgga aggagcctgg agccaggggt aaggaagaga gggaacccct caccgattgg 180
gcataagcca ctccagggaa gcaaggagct tcttctccgc cttgaccccg cccttggcag 240
gccggcc 247

<210> 461
<211> 441
<212> DNA
<213> Homo sapiens

<400> 461
acaagctttt tttttttttt tttttttggg caggctctca ggaatccttt attcttgtag 60
taataataat actaacaaac agttggggaa ctagggagaa aaccagacca ttaaaactgt 120
ttgtggtaga atatacatgg aaggacgttt tttttctgtg acttggacaa tgtggagttg 180
aagcgggtga gagaacatgg aaggcccgcc cttttcaggg aagaggtggt agtgaccaag 240
acaggcaggg aaaaagcaaa cttctatgtg gtgccttttg tatcttggac actgaggcat 300
ccgttcatac cttattaccc attttcccct gcacttcccc agaaaacctg gaaatgacac 360
atgtggttaa ctaaggactt tatttcaaac aaaaattaaa aatattaaat tgagagctct 420
tttccctggg tttggggaag g 441

<210> 462
<211> 391
<212> DNA
<213> Homo sapiens

<400> 462
acagtaatcc tgcctgatag agtagtctgg aatgagaatt actttttggg tgagagagtt 60
ctccatttta atgtttctaa agtttttcat atgaacttgg cattggaaaa gggaggtaaa 120
gaaaaaggac gtttactaaa agcagtgtct actcttcccc tttgtgagtg tttattcatg 180
gctaatgaaa aaaagagaag gactcttggg ttttgtgttg ccatgttaag catggagagg 240
gatgcttgac agcatgctaa ttgaagccag agcaagtatg tccttcatca ggtaatcagg 300
aactcttcag ttgaagctga ggaactaact gattagttgg ttgatcataa tataattggt 360
tacaaagtgg gaagtgccag ctggcttaag t 391

<210> 463
<211> 439
<212> DNA
<213> Homo sapiens

<400> 463
cccacgcgtc cgctccttag ctggctggtt tagttgtaat accaaattcc taccattaat 60

ccctgtctac aaaagttagg tttagatttt agtttgcgga aaccttccct atatagagac 120
agattaactt gttgatataa atttaataga gctagctctt ggtaatggtg aaaataatga 180
gttttggttg gttttatttg gcagatgttt ttagaaataa aagtacttag acctagtgca 240
gcctctagga aaagtcttgc cttttcatta gagaaaacag gaccaaggtt tcagttttca 300
aacagctgtt gttgaatgtg taaaacccag ttccatctgt tttggttcat tgttacagaa 360
cttagtccag tcatttgggc taaagccaac caaaagctta gttgcctttc ttaacaaaca 420
ctggtactgg tatacttttt 439

<210> 464
<211> 291
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(291)
<223> n = A,T,C or G

<400> 464
actggatttc cagaaagtga aactaaaaga gcgtcaggaa gcagagaaaa tgttcaaggg 60
caaacggggt gcacagcttg caaaggatat tgccaggaga agcaaaactt ttaatccagg 120
tgctggtttg ccaactgaca aaaagaaagg tggccatctt ccaggggatg tagaagcaat 180
caagaatgcc atagcaaatg cttcaactct ggctgaagtg gagaggctga aggggttgct 240
gcagtctggt cagatccctg gcagagaacg cagatcangg cccactgatg a 291

<210> 465
<211> 408
<212> DNA
<213> Homo sapiens

<400> 465
tagcagccag gaaggagaga ctgggatggt tttttatctg ttgctttctt aaatcaaggg 60
ccgccgggcc ggagatggat ggagggaccg gggatttggg aactcgaaaa cgagctgagg 120
gaagggagcc tgtggaaata gactggagtc tgggtagtgt cgtttcctag agaatggtct 180
cgaagtaact tctcggtaaa gtcttcacgg aatttccaga ccacacttgg cccactggga 240
ggctttttag gacccgagac gtgtgcaggc ttttccagcc aaaatgaagt ttaatccctt 300
tgtgacttcc gaccgaagca agaatcgcaa aaggcatttc aatgcacctt cccacattcg 360
aaggaagatt atgtcttccc ctctttccaa agagctgaga cagaagtc 408

<210> 466
<211> 524
<212> DNA
<213> Homo sapiens

<400> 466
ggcggccgcc cgggcaggtg tgtcggcgcc gccactgtcc ggccacagcc taacgctctt 60
cgctgtcgtt tgtggtctcg cgcagggcgg ccccggttct ggtgtttggc gtcggaatta 120
aacaaccacc atgtcgagca aaaaggcaaa gaccaagacc accaagaagc gccctcagcg 180
tgcaacatcc aatgtgtttg ccatgtttga ccagtcacag attcaggagt tcaaagaggg 240
ccttcaacat gattgatcag aacagagatg gcttcatcga caaggaagat ttgcatgata 300
tgcttgcttc tctagggaag aatcccactg atgcatacct tgatgccatg atgaatgagg 360
ccccagggcc catcaatttc accatgttcc tgaccatgtt tggtgaagaa gttaaatggc 420
acagatcctg aagatgtcat cagaaacgcc tttgcttgct ttgatgaaga agcaacaggc 480
accattcagg aagattacct aagagagctg ctgacaacca tggg 524

<210> 467
<211> 193
<212> DNA
<213> Homo sapiens

<400> 467

actgatttta aaaactaata acttaaaact gccacacgca aaaaagaaaa ccaaagtggt 60
ccacaaaaca ttctcctttc cttctgaagg ttttacgatg cattgttatc attaaccagt 120
cttttactac taaacttaaa tggccaattg aaacaaacag ttctgagacc gttcttccac 180
cactgattaa gag 193

<210> 468
<211> 185
<212> DNA
<213> Homo sapiens

<400> 468
ggctgctcgg gttagatcgt caggtgaggg aggaagggat agccagcgcg aaggaagtgc 60
tggagtcgtg tgttttggct gcgcgtgatc ctgcgtgggt cgggaggtgt ttctgtgaaa 120
agcctaaaga ttagactgta agaaaagaaa atagaagcca tgtttcgaag acctgtatta 180
caggt 185

<210> 469
<211> 624
<212> DNA
<213> Homo sapiens

<400> 469
acgactcact atagggcgaa ttggagctcc accgcggtgg cggccgctct agaactagtg 60
gatcccccgg gctgcaggaa ttcgatggtc aggcttatcg ataccgtcga cctcgagggg 120
gggcccggta cccagctttt gttcccttta gtgagggtta attgcgcgct tggcgtaatc 180
atggtcatag ctgtttcctg tgtgaaattg ttatccgctc acaattccac acaacatacg 240
agccgggagc ataaagtgta aagcctgggg tgcctaatga gtgagctaac tcacattaat 300
tgcgttgcgc tcactgcccg ctttccagtc gggaaacctg tcgtgccagc tgcattaatg 360
aatcggccaa cgcgcgggga gaggcggttt gcgtattggg cgctcttccg cttcctcgct 420
cactgactcg ctgggctcgg tcgttcggct gcggcgagcg gtatcagctt actcaaaggc 480
ggtaatacgg ttatccacag aatcagggga taacgcagga aagaacatgt gagcaaaagg 540
ccagcaaaag gcccggaacc ctaaaaaggc cgcgttgttg gcgtttttcc ataggctccg 600
ccccctgac gaggcattac aaaa 624

<210> 470
<211> 467
<212> DNA
<213> Homo sapiens

<400> 470
acatccatcg gcctgtaagg gtctgtatta tggctgtgaa tatatgtttt caggacagcc 60
ccctggatga gagataagag agttcctggc tcaaaaaagg acaagattct ttactgagat 120
tgggaagtat gggctactta gaaacgttgg agcagccacc cctggcattc cacatgtcac 180
catttctagg atcttggcct ctctgtgagg tttatgcacc aatgctggca gccctgggca 240
ggggcctcgg cctccttttt gttttccact tcagacaggt acctgcccgg gcggccgccc 300
gggcaggtac aagctttttt tttttttttt tttttttctt tttttttttt tttttttttt 360
tttttttttt ttttcagagt ctgatcttat ttatttgtta ctcaaaaaat cttatttttg 420
actggattca aacttaaaag taaaacctcg caaaggggaa agtttgc 467

<210> 471
<211> 372
<212> DNA
<213> Homo sapiens

<400> 471
acaaacttag aagaaaattg gaagatagaa acaagataga aaatgaaaat attgtcaaga 60
gtttcagata gaaaatgaaa aacaagctaa gacaagtatt ggagaagtat agaagataga 120
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ccaatttatt ttaaaagccc atcaatttaa tttctggtgg tgcagaagtt agaaggtaaa 240
gcttgagaag atgaggtgt ttacgtagac cagaaccaat ttagaagaat tcttgaagct 300
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<210> 472
<211> 325
<212> DNA
<213> Homo sapiens

<400> 472
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tgaccaaggg ggagctcaag gtgctgatgg agaaggagct accaggcttc ctgcagagtg 180
gaaaagacaa ggatgccgtg gataaattgc tcaaggacct ggacgccaat ggagatgccc 240
aggtggactt cagtgagttc atcgtgttcg tggctgcaat cacgtctgcc tgtcacaagt 300
acctcggccg cgaccacgct aagcc 325

<210> 473
<211> 364
<212> DNA
<213> Homo sapiens

<400> 473
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tgccggctcc agatctccac ttcattcaca ggtgattttg gaaatcctgt aagttacact 360
tcct 364

<210> 474
<211> 298
<212> DNA
<213> Homo sapiens

<400> 474
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gacaaaaaaa ggctgctgca gattattgac agagatgggg aagaggaaga ggaagaggag 120
gagccattgg atgaaagctc agtgaagaaa atgatcctca catttgaaaa gagatcatat 180
aaaaaccaag aattgcggat taagtttcca gacaatccag agaagttcat ggaatccgag 240
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<210> 475
<211> 406
<212> DNA
<213> Homo sapiens

<400> 475
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aatgttacca gcagtcaatg aagggatttc tacatgttgg tcagcaaacg gcaaaagcag 240
acgacttatt ctctccgtgc agtttccatt aatattatga atggccaact ggggttttat 300
agtgcctgag taaatgcgca taaaaaccag tggtcctcgc tgcttgtcat ggagaacttt 360
aaatgccaat gcacataagt catccttata ccactgcaga aattca 406

<210> 476
<211> 311
<212> DNA
<213> Homo sapiens

<400> 476

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ccaggtcact gtatattgag aagaaacata aaactattgt ctgttacatt ccgaggtcag 240
ccttcttctt aacgttttat aatatgcaaa tgccagcttc tggaaagcaa gtattatcat 300
gtacctcggc c 311

<210> 477
<211> 188
<212> DNA
<213> Homo sapiens

<400> 477
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atacacaacc tcagggggga agctggcagg gagcacgtgg cagaggccac aggtttagac 120
taagaatctt tcaatggact gctgaatgga ttggatctgc tgtttcagct gcgagccttc 180
tttgatgg 188

<210> 478
<211> 277
<212> DNA
<213> Homo sapiens

<400> 478
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tgaatgatgt cccatctctt atccgagcca gagcacacat cttccatgct gtccgctgat 120
tgcctccaaa tccagaagac caaataatcc tttatcccca aagtaggctc aaaacagttg 180
gttcaggcat tccgggatct gcacccctct taaatcccag gtaaatcaca agaggtgatt 240
aaagccccag cgaatgtgca aacttggctt ccccttg 277

<210> 479
<211> 573
<212> DNA
<213> Homo sapiens

<400> 479
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gttccctgcg gggagtcggc ccccgacctt gccggcttca ccctcctaat gccagcagta 120
tctgttggaa atgttggcca gcttgcaatg gatctgatta tttctacact gaatatgtct 180
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agcagtcatt catatcagcg taatgatctg cagcttcgta gtactccctt ccggtaccta 480
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tggaaaaagc cggtgcattc ctgaatagat gat 573

<210> 480
<211> 519
<212> DNA
<213> Homo sapiens

<400> 480
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ccttatgtga aatacatcac tatttaatta cattaatttt aacatctgtt gtgtggagtt 120
gtatagttca tgcaaaagcc tgtgggtatg ggtttttcaa accagcagaa aggtcaaagg 180
tacctgaatg ctaaactgcc tggctcccag ctttttcatt aaacttttca gggtcttggt 240
ttctttatct gtaaaatgac agagttggac cagttaactt taatggccat ccttttacac 300
cacacaagtt gataaaattt atctgttcag caaagagatt gaacaaaaaa gcacgttagt 360
aatatgaaga caggaaaacg aatgaaagtc taacacataa ctcatattga tttactttat 420
ttctgttaga ttttacactc tgaaaatttc acctcattta gtttgtacaa atactagaca 480

tggaaactta aaatgtgcag gtgtcaaaag ctaaaaatc 519

<210> 481
<211> 233
<212> DNA
<213> Homo sapiens

<400> 481
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gccttcttgg cctttaaagc cttcgctttg gcttcagctt taggaggggc aggagcttcc 120
ttcttcgcac atagagggga aaaaatacca gaaaggagtt cataaaaccc cagccgctgc 180
cagtatcatt cagtggctgg ggcctgcggc tggtctcggg cccagaagcc gga 233

<210> 482
<211> 328
<212> DNA
<213> Homo sapiens

<400> 482
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acaaaaaagg gatgaataaa tccgatttga ataccaacaa tttgctcttc aaacctcctg 120
tagagagcca tatacaaaag aataagaaaa ttcttaaatc tgcaaaagat ttgcctcctg 180
atgcacttat cattgaatac agagggaagt ttatgttgag agaacagttt gaagcaaatg 240
ggtatttctt taaaagacca taccctttg tgttattcta ctctaaattt catgggctag 300
aaatgtgtgt tgatgcaagg acttttgg 328

<210> 483
<211> 348
<212> DNA
<213> Homo sapiens

<400> 483
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tatgatagtg gctgtgcatg gatgacttgt atctcagcgt taatagaatt tgatctgggg 120
aaagttcctt gccatagttc ctgagttgaa aacataatta catctgtgga gaaaggacca 180
aatggagtga actattgttt agagtattaa gttactatag ttcagattaa acaacacact 240
tacccaaaac ttaatttgga tggattttat ataaaatata taatagaatc ataccatcat 300
ctatttgtag ccaaagtaaa aagatttatg agaagaataa ggactctg 348

<210> 484
<211> 389
<212> DNA
<213> Homo sapiens

<400> 484
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ctccatttta atgtttctaa agtttttcat atgaacttgg cattggaaaa gggaggtaaa 120
gaaaaaggac gtttactaaa agcagtgtct actcttcccc tttgtgagtg tttattcatg 180
gctaatgaaa aaaagagaag gactcttggg ttttgtgttg ccatgttaag catggagagg 240
gatgcttgac agcatgctaa ttgaagccag agcaagtatg tccttcatca ggtaatcagg 300
aactcttcag ttgaagctga ggaactaact gattagttgt tgatcataat ataattggtt 360
acaaagtgga agtgccagct ggcttaagt 389

<210> 485
<211> 215
<212> DNA
<213> Homo sapiens

<400> 485
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gaacggcttc ctcccaattc acctgttggg cctccgagtg gactgggatg accgctggat 120

caacgatgtg gaagacagct acgggcagca gtggacctat gagcagagga aaatcgtgga 180
gttcaccctg ccacacagtc ttcttcgtca gtatc 215

<210> 486
<211> 396
<212> DNA
<213> Homo sapiens

<400> 486
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tgccccgcgg gacgtggggt ttccatttaa ttcccggccc cacccgccaa aatgaacagc 120
tcggacgaag agaagcagct gcagctcatt accaggctga aggagcaagc aataggcgaa 180
tatgaagacc ttagagcaga gaaccagaaa acaaaggaga agtgtgacaa gggggggcaa 240
gaacgagatg aagccgttaa aaaactggaa gaatttcaga aaatttctca catggtcata 300
gaggaagtta atttcatgca gaaccatctt gaaatagaga agacttgtcg agaaagtgct 360
gaagctttgg caacaaagct aaataaagaa aataaa 396

<210> 487
<211> 266
<212> DNA
<213> Homo sapiens

<400> 487
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ttgtaacttt acatatttac caccaacatt tattatcttt gaaccaaatt ccactcctat 120
tgtatgattt gagtcatctt tgaatttttt tttcaataaa ctgatgaagt aagcaagatt 180
tgccagttcc tgcatttcca ataaccaaga acttaaacaa aaaatcgtag gtttaggaca 240
tggccgtctg cgacatcttg ggagcg 266

<210> 488
<211> 274
<212> DNA
<213> Homo sapiens

<400> 488
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catggtgctg aatggctgag gaccttccca gtctccccag agtccgtgcc tttccctgtg 120
tgaattttgt atctagccta aagtttccct aggctttctt gtctcagcaa ctttcccatc 180
ttgtctctct tggatgatgt ttgccgtcag cattcaccaa ataaacttgc tctctggcaa 240
aaaaaaaaaa aaaaaaaaaa aaaaaaaagc ttgt 274

<210> 489
<211> 275
<212> DNA
<213> Homo sapiens

<400> 489
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cggaggcctg ggctacagct gtggaggctt cggtggcctg ggctatggct atggctgtgg 120
atgtggcagc ttctgcagac ggggttctgg ctgtggctat ggaggctacg gatatggctc 180
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<210> 490
<211> 254
<212> DNA
<213> Homo sapiens

<400> 490
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tcagggagga tctgtgaggt caactgttgg cactgtggca tgaatcaagg tggtggcagc 120

aaacttctag tagttttgat atgtccttga tagaacaaat agcaatggtt aactattaaa 180
tgttgaccta gccagcgcag tggctcatgc cctgtatccc agcactttgg gaggctgagg 240
cgggcggatc acct 254

<210> 491
<211> 271
<212> DNA
<213> Homo sapiens

<400> 491
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ctaaaatgca gaaatgcatg ctgtcagcgt tggtatttca catttcaatg gagctgaatg 120
ttcaggacct cttcccattg aagctataat ttatttggac caaggaagcc ctgaaatgaa 180
ttcaacaatt aatattcatc gcacttcttc tgtggaagga ctttgtgaag gaattggtgc 240
tggattagtg gatgttgcta tctgggttgg t 271

<210> 492
<211> 153
<212> DNA
<213> Homo sapiens

<400> 492
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agctgtgatt gattgccttt ggtcagtaat gcgttcagga gtccacacca ggcacagatg 120
gggccttgaa acgctttgtc atgcttcttc agt 153

<210> 493
<211> 306
<212> DNA
<213> Homo sapiens

<400> 493
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tggcagcaag ctgagactgg aagttatctg ctgccaacca gaattgtaag atattcactg 120
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gaaacagttg ggatccacct gtccatcttc tccacaaatc cttgctatga tgtcattttc 240
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tattca 306

<210> 494
<211> 444
<212> DNA
<213> Homo sapiens

<400> 494
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aatgacctct atctgtatta ggaattccca aatccacagt aggaatggaa ttttcagttt 420
agtcactata gtattcaatg agac 444

<210> 495
<211> 493
<212> DNA
<213> Homo sapiens

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<210> 496
<211> 153
<212> DNA
<213> Homo sapiens

<400> 496
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aaaaaaaaag aaaaaaaaaa aaaaaaaaca aaa 153

<210> 497
<211> 365
<212> DNA
<213> Homo sapiens

<400> 497
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gttgc 365

<210> 498
<211> 366
<212> DNA
<213> Homo sapiens

<400> 498
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aggagaaagt ttagcacact aaacacatgg ccaggaccct agggacacaa ggcagctgga 300
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gggccc 366

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<211> 571
<212> DNA
<213> Homo sapiens

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gaaataccag ttgcaatgtt ttgttgcata aagtttatcc taatttaaat tagtggcata 480

taaagtcatc atcttgcttg aacaaacatt ttattaaatt gagcatgtcc tttatcccat 540
gaaatgaaat taattttgag atagttattt t 571

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<211> 461
<212> DNA
<213> Homo sapiens

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agtccgtcca gccttctcct tctatgagac tctgcgggag cggtcctcac tgctgccccg 180
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<210> 501
<211> 270
<212> DNA
<213> Homo sapiens

<400> 501
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tagtttctgg ctgggcaggg tggttcacgc ttgtaatccc gcactttggg aggccaaggc 180
gggtggatca cgaggtcagg agattgagga tcatcctggc caacatggtg aaaccccgtt 240
tctactaaaa atacaaaaat tagccgggct 270

<210> 502
<211> 253
<212> DNA
<213> Homo sapiens

<400> 502
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acaccagaga tcggtgtctt cagtcctaga ctgatggaga aaatccagaa tatatactag 180
aagctccaaa tgctctgggt ttcagctcct ctgtgctgtg gacactgact ttggctcaga 240
actccgattt agt 253

<210> 503
<211> 203
<212> DNA
<213> Homo sapiens

<400> 503
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ttttacaatt tctggtatct atattaagtt tctctggtcc aaatgtgtag tcccacaggt 180
gtttcatgtc atcccaattt cgt 203

<210> 504
<211> 509
<212> DNA
<213> Homo sapiens

<400> 504
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ttttgggacc cccaaaacca tcctttattg gagtattagt tcatgggaac tgcatgaaaa 120

acatttcagg gggaatttac aatttccagc ttaaaaaact tgcccaccaa cataaccatt 180
ttatgaaagt caattcatta aagggtttaa aaccttttgt tgggcatgat ggcaagggac 240
aaagctccaa cttggcctgt ccctttggaa gctgaggcag gaggaccatt tgagcccagg 300
agcctgaaac cagcctgggc aacataaaaa atccgtctca acaaaaaaaa atttaccca 360
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<210> 505
<211> 545
<212> DNA
<213> Homo sapiens

<220>
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<223> n = A,T,C or G

<400> 505
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cattgtgatg ttaagccaac aagcaccaga ttaaacaggc tgtgaagaag ctgtatgaca 240
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gaactaggtg gatcccccgg gctgcaggga atttcgatat caagcttatc gatanccgtc 480
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<210> 506
<211> 533
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(533)
<223> n = A,T,C or G

<400> 506
acagggcttc tcatcataca caaaccctcc acagcccacg gctccaaccc acagcacctc 60
ctgcagtcct tttatgcttc ttgtttcttc tccatcaata atatgtcagt caactgcttg 120
tcagagacac ttagctgctg acaggtcctc ataacctgac tcaggtaaac tgccaagaga 180
tgcttgcact gcactcctca cgttagtcct aagttatatt tcttccttgc cttcagaaag 240
ctgtcacagc aatggttaac attccttgag gcactaggct gtgaagtgct tctcatagat 300
tatctcactg aaatctgaca gctcccagga tgctgtcact cttccgtagc actgagaatg 360
caaatgcagg acatgaacag taatgacaag aagccaaaca tgntgtatgt tttactggaa 420
cttccaagga cctggtaaac acgccttccc tgggtgatga gattaagtga tggactgtcg 480
atcactaggt ccaggcctgg gtggctgatg agccaaagag aaacttcagc gat 533

<210> 507
<211> 539
<212> DNA
<213> Homo sapiens

<400> 507
acccagagtt gcgaggagtt ttttaactga tttagccagg tggcaatcat gagtgaatgg 60
atgaagaaag gctccttaga atggcaagat tacatttaca aagaggtccg agtgacagcc 120
agtgagaaga atgagtataa aggatgggtt ttaactacag acccagtctc tgccaatatt 180
gtccttgtga acttccttga agatggcagc atgtctgtga ccggaattat gggacatgct 240

gtgcagactg ttgaaactat gaatgaaggg gaccatagag tgagggagaa gctgatgcat 300
ttgttcacgt ctggagactg caaagcatac agcccagagg atctggaaga gagaaagaac 360
agcctaaaga aatggcttga gaagaaccac atccccatca ctgaacaggg agacgctcca 420
aggactctct gtgtggctgg ggtcctgact atagacccac catatggtcc agaaaattgc 480
agcagctcta atgagattat tctgtcgcgt gttcaggatc ttattgaagg acatcttac 539

<210> 508
<211> 416
<212> DNA
<213> Homo sapiens

<400> 508
actactttaa ttctgatctc tctctagaag gcagaaacca catcccacac tcctatgcaa 60
tttgttattt tggtattgca aagtaaatga ataagaaggc gtggaggcat aaagaaaatc 120
tattttctgg ctgcgcaggg tggttcacgc tcgtcatccc gcactttgcg aggccaaggc 180
ggatggttca cgaggtcagg agattgagga tcatcctggc caacatggag ataccccgtt 240
tctactaaac atactaaaat tatgccggac ttggtgacat gcgcccgtag tcctagctac 300
tcgagaggct gaggcagggg aatcacttta actgggaggt ggaggttgca ttgagccaag 360
atcgcaccat tgcactccag cctgggcaac agggtgagac tctgtctcaa aaaaat 416

<210> 509
<211> 398
<212> DNA
<213> Homo sapiens

<400> 509
actagtttaa ttctgatctc tctctataag gcagaaacca catcccacac tcctatgcaa 60
tttgttattt tggtattgca aagtaaatga atacgaaggg gtggaggcat acagaatatc 120
tagtttctgg ctgggcaggg tggttcacgc ttgtaatccc gcactttgcg aggccaaggc 180
gggtggatca cgaggtcatg agattgagga tcatcctggc caacatggtg aaaccccgtt 240
tctactaaaa atacaaaaat tagccggcct tggtgacatg cgcctgtagt cctacctact 300
cgtgaggctg aggcaaggga atcacttgaa ctgggaggcg caggttgcag tgacgccaac 360
atcgcaccat tgcactccag cctgggcaac agggtgag 398

<210> 510
<211> 560
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(560)
<223> n = A,T,C or G

<400> 510
cgcgtccggt cagtgtttac actgtcaagg atgacaagga aagtgtccct atctctgata 60
ccatcatccc agctgttcct cctcccactg acctgcgatt caccaacatt ggtccagaca 120
ccatgcgtgt cacctgggct ccacccccat ccattgattt aaccaacttc ctggtgcgtt 180
actcacctgt gaaaaatgag gaagatgttg cagagttgtc aatttctcct tcagacaatg 240
cagtggtctt aacaaatctc ctgcctggta cagaatatgt agtgagtgtc tccagtgtct 300
acgaacaaca tgagagcaca cctcttagag gaagacagaa aacaggtctt gattccccaa 360
ctggcattga cttttctgat attactgcca actcttttac tgtgcactgg attgctcctc 420
gagccaccat cactggctac aggatccgcc atcatcccga gcacttcagt gggagacctc 480
gagaagatcg ggtgccccac tctcggaatn ccatcaccct caccaacctc acttcaggca 540
cagagtatgt ggtcagcatc 560

<210> 511
<211> 290
<212> DNA
<213> Homo sapiens

<400> 511
acttttttttt ttttttttttt tttttttttt aaaaaagagg gggggttcaa ccttttggcc 60
cgggtgggtt taaaccccct accctagggg aaccccccctc cttggccccc caaaagggtg 120
ggaataaagg gggaaacccc cccccccggg cccctttttt tttttttttt tttaaaaaaa 180
aaattttttt taaaaaattt tttttgggaa aactttaaaa aaaaaaaaaa accgcccttt 240
aacccaaggg ggtttttttt ttttttaaa aaaaaatccc ccccaagggg 290

<210> 512
<211> 374
<212> DNA
<213> Homo sapiens

<400> 512
gcggccgagg taccactgcc cactttcctg gttgctggag ggagcctggc cttcggaacg 60
ctcctctgca ttgccattgt tctgaggaat cattctgcct gaaaaacgtg tggtggcctt 120
aatggcacag cctggcttga agatgaggca ggagtgggaa agtgcccaat ccaagaagca 180
aggagggaaa ctgctcacac cccttccaga agcaatggaa ccgtttcccc tctcaccacc 240
aaggtcacac aggaaaggcc accagcagga acatcatatt gatgctaatg gccccctccc 300
catttccctg ttgccatctt tacccctgaa ctactgtacc tgcccgggcg gccgctcgat 360
gcgttgcgct cact 374

<210> 513
<211> 277
<212> DNA
<213> Homo sapiens

<400> 513
acaaagtttt atatgatagt gtcttgctgc ctgtttctac aaaagccaag ggtgtaacat 60
taaatgcaat tttgcaaggg gctgaggtga tgtggtccaa gtatgtaatc acttcaggga 120
gccatatgtg accttcatac actgttgata atggccatgc ctcccagtca ggcctgtgac 180
acctgctgga cagcaggcat tccaaggccc ctaagcactg agttagctgg taaaggttaa 240
ggaaaaagct gtattcttac tactttactc caaggta 277

<210> 514
<211> 410
<212> DNA
<213> Homo sapiens

<400> 514
accctataaa tttatacaaa taaaagagtt taagggagtt caaggatgcc atatatatat 60
tttaaaaaaa tttctaaggg aagtctaaaa aacataaatt ataatattac ccaaaataag 120
atgctacttt tcacctaacc aagtcctgcc tcatttcaca ctttaacctc ctaagtatat 180
tcataatcct accaaaagtt gttttcttta aaaagtaaga aactttaggg ccagcgcaat 240
ggtgcaagcc tgtaatccct gcactttggg aggccgaggc aggtgaatcc tttaaggtca 300
ggagttcgag accagcctgg ccaacatggt gagacacact cccccacccc tgcccagtct 360
ctagtaaaaa tgcaaaaatt agccgggcgt ggtgggcgtg cacctgtaat 410

<210> 515
<211> 291
<212> DNA
<213> Homo sapiens

<400> 515
gcgtggcggc cgcccgggca ggtacgagtg gaggacaggg acagagccct ctgtggtgga 60
acgaccccac ctcgaggagc ttcctgagca ggtggcagaa gatgcggtaa gatgggcctt 120
gtgatgagct gtaggagtgg agtgggagct gcttgtcccc tccccacccc caacagccca 180
acccaagacc cagagagaag aagggaggat ttctgtgaga gtgactgtag gtagaagggc 240
ccaggaggcc ctactccttt atttttctga gtataggtga gtgagtgcca c 291

<210> 516
<211> 216

<212> DNA
<213> Homo sapiens

<400> 516
gtaacaactt ggggaaacaa tcccggatgg cacttacata ggcggactgg tccgagaagg 60
tgctgcacaa cgggttccct tctagccata gctcttcgag cttcagccct ttcaccttgc 120
ccaactccca cgctgactcc agcttatttt tggagagatt cagggtcttg actttgggag 180
ccttctctgt aatgtcagaa aggccatcca gctggt 216

<210> 517
<211> 208
<212> DNA
<213> Homo sapiens

<400> 517
acaatggaac tgtattttcc caaaatgttg cagatcagtt acaacaaaca gaacggcgac 60
cgtcaaggaa aactgtcact ctgggctcct ttttgaccac agcagctatg cggaagcagc 120
tgcagcttcg ataagggcca aggggcaatt cagatcccag ggcggccgcc taaagcctca 180
cctgtccatc attactacct gcttaagt 208

<210> 518
<211> 192
<212> DNA
<213> Homo sapiens

<400> 518
actattagaa acaaaattga gcaagttaag ttaaaagttt gctgactttg tatcaacact 60
atagaagatg agccaccttg ttaatttgga atatttgctc tgaaaagaac atgttagtta 120
caccttaatg gtgttaatgg aggtggggat tgagaaaagt gttcacatta gtgttggaat 180
gtaggtaatt gt 192

<210> 519
<211> 590
<212> DNA
<213> Homo sapiens

<400> 519
cgcgtcgcaa actactcttc tttgctaggg tcctttaccc acacagaggt gagcctttca 60
ggttcttcat tttgcttagt ttctttcctt gtccttggca tttaagaggc atccatgtgt 120
tagccagcca aagccccctg aaggagctgg ctgctttaaa ggatttactt gggaggatgt 180
caaatggctt tgccttctgc agacttcatt tattttaatc tttttatggc tcctttctct 240
tgctttaaaa caggattata agcacacagc aggtactgac acctgaagtc ttactaaatt 300
cctgtcctca ggccatcctt tttctcctga aacctggact ccaattttca atgacgtttt 360
tgtttttctc tttcaagcct aactatggga cagctttacg agaaggaaaa agatgaagat 420
ggattcttat atgtggccta cagcggagag aacacttttg gcttctgagg gccattgctg 480
ggctaggtgc accgtaactg cttgtgtatc ttgtaaatag ccagccattt tcagttatta 540
taccagaacc ttttcacata gacctattaa tgcatttgta actggattta 590

<210> 520
<211> 421
<212> DNA
<213> Homo sapiens

<400> 520
acctttagta gagacggggt tatatcatgt tgcccaggct ggtctcaaac tcctgacttc 60
aggcaatcca cccacctcgg cctcccaaag tgctgggatt acaggcttga gccgctgcgc 120
ctggcccaaa ctgatgtctt atccttctta gtgcctcaca ccagatcctg ttcagacatg 180
ttataacaaa ttagtatgag tttattttg cacaattttt gacatctatg catagttttt 240
cacaatacac attttcctta aagggtttga ggaccctttt gtgtgactgc agacgcttct 300
acagtctgtg acttgtcttc tccttttcct aaaggtggct ttgatggtct tttaaaattt 360
tgattgaaga acaacttacc aatttaccag tttgggttaa ttttgggtta acgcttttg 420

t 421

<210> 521
<211> 192
<212> DNA
<213> Homo sapiens

<400> 521
acacctacac ggatgcgaac ggcgataaag cagcatcgcc cagcgagttg acttgtcctc 60
caggttggga atgggaagat gatgcatggt cttatgacat aaatcgagtg gtggatgaga 120
aaggctggga atatggaatc accattcctc ctgatcataa gcccaaatcc tgggttgcag 180
cagagaaaat gt 192

<210> 522
<211> 192
<212> DNA
<213> Homo sapiens

<400> 522
acattttctc tgctgcaacc caggatttgg gcttatgatc aggaggaatg gtgattccat 60
attcccagcc tttctcatcc accactcgat ttatgtcata agaccatgca tcatcttccc 120
attcccaacc tggaggacaa gtcaactcgc tgggcgatgc tgctttatcg ccgttcgcat 180
ccgtgtaggt gt 192

<210> 523
<211> 189
<212> DNA
<213> Homo sapiens

<400> 523
tacctccacc tcatgaccgc ctataaacat ttctcacttc caagcattac ctctaatact 60
gattattcta gacgtcattt ttttggtaaa caagacttaa ttaaaatttt accgaatttc 120
cttttacttt ttttaacctt tccttattag catacctgtg tttctttcac attaaattta 180
ataattact 189

<210> 524
<211> 503
<212> DNA
<213> Homo sapiens

<400> 524
ctggaatata atcagtggtt cacaaaactg tcctctaagg atctaaaact gtccactgat 60
gtctgtgaac agatcttgag ggtggtgagt aggtccaatc gactggaaga attggtgttg 120
gaaaatgctg gacttagaac agattttgca caaaaactgg ccagtgctct agcacataat 180
cccaactcag gactccacac aattaacctt gctggcaacc cactggagga tagaggtgtg 240
tcctctttaa gtattcaatt tgccaaactc ccaaagggct taaagcactt aaatttatct 300
aaaacctcat tatcacctaa aggggtgaac agcctttctc agtcactcag tgccaatcca 360
ttgaccgcct ctacccttgt ccacctcgac ctctcaggga acgtccttcg tggagatgac 420
ctctcacaca tgtataattt tttggcccag ccaaatgcca ttgttcatct ggatttatcc 480
aatacagaat gttccctgga cat 503

<210> 525
<211> 240
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(240)
<223> n = A,T,C or G

<400> 525
gatctccacc gnggtggcgg ccggcttcca gtcgcccccg gggtagcggt tctcgttctg 60
atagacttca tcagtgaact ccgtgtgacc tgcatctgcc tcagtcagca agcttctttc 120
aggatcaact atccactctc cttcccattc ccagcctttt ggaggcagaa aaaattccct 180
cttgagtttt atttttcccg tgacatcaga aaacttatga cgtcctacta atccagaagt 240

<210> 526
<211> 471
<212> DNA
<213> Homo sapiens

<400> 526
attcggtgct tcccaacacc tccttattgg aaaacagcca aggagatggt ggctaactgg 60
aggcatcacc cagcagtggt ggagcagtgg agcaaggtca tttgtgcact cacttccaga 120
ttgctacgct ttacatatgg tccttcattt cctgcattta aagttcccga tgaagatgcc 180
agtctgatcc ctccagaaat ggataatgag tgtgttgcac agacatggtt tcgcttttta 240
cacatgttaa gtaatcctgt ggatttgagt aacccagcta ttataagctc tactcccaaa 300
tttcaggaac agttcttgaa tgtgagcgga atgccgcaag aattgaatca atattccctg 360
ccttaaacat ctgcctcaaa tatttttcg tgccatgcgt ggaatcagct gtctggtgga 420
tgcattctta ggtatttcta gaccccgatc agacagtgct cccccaacac c 471

<210> 527
<211> 404
<212> DNA
<213> Homo sapiens

<400> 527
ccacgcgtcc tgtacaaaac atgacaattc agaattaagt ggttatattc tgctatgcaa 60
tcatcagagg atgaggggta agaatgagac aatctttact acgatgttca gacttatcat 120
gatggacccc acttcagaga agttaatggc tcttgagatt tccaggcaaa tttcatctgc 180
tcatatctgg tttctgtgca tcaggagtga gactgaagtt ctagggcgtg gcttgtctgt 240
cgaggcccct ctctactgga atgaatgaat gtaaagaatg ggtgttaaga ggtccctgga 300
gctgccttca acataagggg tcctagaggg tgcaagactc atcaagaacc agtttacccc 360
atgcaatagg actgctaaag ccagagaaat ggacaaagcc cagt 404

<210> 528
<211> 636
<212> DNA
<213> Homo sapiens

<400> 528
ggagacttgg tactgagaga tcccctcata atttccccaa agcgtaacca tgtgtgaata 60
aattttgagc tagtagggtt gcagccacga gtaagtcttc ccttgttatt gtgtagccag 120
aatgccgcaa aacttccatg cctaagcgaa ctgttgagag tacgtttcga tttctgactg 180
tgttagcctg gaagtgcttg tcccaacctt gtttctgagc atgaacgccc gcaagccaac 240
atgttagttg aagcatcagg gcgattagca gcatgatatc aaaacgctct gagctgctcg 300
ttcggctatg gcgtaggcct agtccgtagg caggactttt caagtctcgg aaggtttctt 360
caatctgcat tcgcttcgaa tagatattaa caagttgttt gggtgttcga atttcaacag 420
gtaagttagt tgctagaacc catggctcct ttgccgacgc tgagtagatt ttaggtgacg 480
ggtggtgaca atgagtccgt gtcgagcgct gattttttcg gcctttagag cgagatttat 540
acaatagaat ttggcatgag attggattgc ttttagtcag cctcttatag cctaaagtct 600
ttgagtgact agatgacata tcatgtaagt tgctga 636

<210> 529
<211> 250
<212> DNA
<213> Homo sapiens

<400> 529
actggcgcgt gtggctgatg ttctgatgcc accatctttc ttggagggga cgtgcccgag 60

gagcactgtc agtcttctgc tgaccccgca gccccagagc acaccttgtc tcgttcagtc 120
cagttcacag gagggctgaa cagtgggacc aggtcgttct gtgaatttca cacttaattt 180
ttctctcttt taaaatcttt aacatgaaga tggcttttct aaactttaaa aaaaaaaaaa 240
aaaaaaaggt 250

<210> 530
<211> 272
<212> DNA
<213> Homo sapiens

<400> 530
ggggcggccg aggtacacac taagataaag gatgatcttg aagaccttat agttaattgg 60
gatgagagca aaagcattgg tgacattttt ctgaaatatt caaaagattt ggtaaaaacc 120
taccctccct ttgtaaactt ctttgaaatg agcaaggaaa caattattaa atgtgaaaaa 180
cagaaaccaa gatttcatgc ttttctcaag ataaaccaag caaaaccaga atgtggacgg 240
cagagccttg ttgaacttct tatccgacca gt 272

<210> 531
<211> 217
<212> DNA
<213> Homo sapiens

<400> 531
acttctggat tagtaggacg tcataagttt tctgatgtca cgggaaaaat aaaactcaag 60
agggaatttt ttctgcctcc aaaaggctgg gaatgggaag gagagtggat agttgatcct 120
gaaagaagct tgctgactga ggcagatgca ggtcacacgg agttcactga tgaagtctat 180
cagaacgaga gccgctaccc cgggggcgac tggaagc 217

<210> 532
<211> 242
<212> DNA
<213> Homo sapiens

<400> 532
acatttcccc ttatggtgac gatgctctga ctcgtttagg tagacacatt gaccaccttc 60
cattccatta aatatttttt cctttttccc ctttctgtgt cattcttgag gaaaaaacaa 120
aagagagagg ggatgccaat gatccccttg agcagagaaa aagcaaaata aatattttat 180
taaagaaaaa agagaattaa gaaaatagtt tggagtattt tcttactgta gagaagcact 240
gt 242

<210> 533
<211> 436
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(436)
<223> n = A,T,C or G

<400> 533
gcggtggcgg ccgaggtanc agcttttttt tttttttttt tttttttttt tttttttttt 60
tttttttttt tttttttttt tttttttttt tttttttttt tcaaagccaa tatttaaatc 120
caaaaagaat aaaaaaagtg cctttgggct tttttttccg ccgccccgct ccccccaaaa 180
ccccatccac cccccagaaa accccccccc ccgacacacc caaaaccccc ccaaaaaacc 240
ccccccaacc ccttgtttc acccgggggg ccgcgcggac acaccccccct gcaaaaaaaa 300
accccccaaa agtccccccc accggggttt atctcctttt aaggggctag agagccggaa 360
aaaccccccac ctggtccccc ccccccccgg gggatatttt ccccacggaa aaaatcccga 420
aaccaaaaaa aacccc 436

<210> 534

<211> 217
<212> DNA
<213> Homo sapiens

<400> 534
acgataattg tgttgatttg tctgttgctt tttggattct ccaagatcca ggaaatgctc 60
atgagcatga ttctttgaga cagtgggtat tttattctct tttggaacag ttaagtgttt 120
tcttttctct tctgacctgt aagtctttat ttcttcttct ccctttgcag ttctccattc 180
ttcttgccta ctggctacac cagctgatag ctcgggt 217

<210> 535
<211> 342
<212> DNA
<213> Homo sapiens

<400> 535
gcagccgaca gctttgcagc ggtgtgttct aggtcagtgg cttcaaagac tccagttgga 60
ttcattggac tgggcaacat ggggagtcca atggcaaaaa atctgatgaa acatggctat 120
ccacttatta tttatgatgt gttccctgat gcctgcaaag agtttcaaga tgcaggtgaa 180
caggtagtat cttccccagc agatgttgct gaaaaagctg acagaattat tacaatgctg 240
cccaccagta tcaatgcaat agaagcttat tccggagcaa atgggattct aaaaaaagtg 300
aagaagggct cattattaat agattccagc actattgatc ct 342

<210> 536
<211> 451
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(451)
<223> n = A,T,C or G

<400> 536
actaatgtta ttaatgtggc tgacaagtaa ttagaaaact ggaaattaaa ttttacaaac 60
atttttaaaa tcgctacaat taaaaaaatt caagatggtt acattatgaa tatgaatgaa 120
atgtcattag cgacttcgtt aaatgtatat gtaattctat attttcccca aaacccacat 180
tttatgaaga atatttattt atttatttat ttttgttttt tgagatggag tctcgctctg 240
ttgccagact ggagtgcaat ggtgcgatct ccgctcactg caacctccac ctcctgggtt 300
caaacgattc tcctgcctca gcctcccgag tagctgggac tacaggcacc gncaccacgc 360
ccggctaaat tttgtatttt tagtagagac agggtttcac catgttagcc aggatggtct 420
ccgtctcttg acctcgtgat ccacccgcct t 451

<210> 537
<211> 247
<212> DNA
<213> Homo sapiens

<400> 537
agtgactatg atacggtagt ccatcctttc tacgcttatt ggcagagttt ctgcactcaa 60
aagaattttg catggaagga agaatatgat acacgacagg tttcaaaccg ctgggaaaaa 120
cgagccatgg aaaaagaaaa caaaaagatt cgggacaaag caaggaaaga gaagaatgag 180
cttgtccgtc agctggtagc tttcattcgt aaaagagata aaagagtgca ggcgcatcga 240
aaacttg 247

<210> 538
<211> 444
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(444)
<223> n = A,T,C or G

<400> 538
cctccactgc tttggcttgt ttcgttgtag gctgctcttc tgtctgtgac tcaatctcta 60
attctcgcct tgccacataa tcccaagtga gaggatcatc tgtgtgtaga gcctgaaggt 120
catcataaat ctctttttgt agatctttgg caaagtcaaa tagctgtgca atcgaaagca 180
gtgacacgtg aaattctgca cctttaatta tgcttacaga atttttgtag atgatccatg 240
ccaactcgcc cttaaggatt tcttcagaat aatcaggatt ctccacatcc atactggctt 300
tttcaaattc ttccttctcc ttcctcagtt tttcagcatg catcagctcc atcctaaagt 360
attctttata aagttntggg cactctggat gaaagcgcag tgcgcgaaga aatagttgcc 420
ttgcgctttc tgaagacaat cgat 444

<210> 539
<211> 497
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(497)
<223> n = A,T,C or G

<400> 539
actaatgtta ttaatgtggc tgacaagtaa ttagaaaact ggaaattaaa ttttacaaac 60
atttttaaaa tcgctacaat taaaaaaatt caagatggtt acattatgaa tatgaatgaa 120
atgtcattag cgacttcgtt aaatgtatat gtaattctat attttcccca aaacccacat 180
tttatgaaga atatttattt atttatttat ttttgttttt tgagatggag tctcgctctg 240
ttgccagact ggagtgcaat ggtgcgatct ccgctcactg caacctccac ctcctgggtt 300
caaacgattc tcctgcctca gcctcccgag tagctgggac tacaggcacc gccaccacgc 360
ccggctaatt tttgtatttt tagtagagac agggtttcac catgttagcc aggatggtct 420
ccgtctcttg acctcgtgat ccacccgcct tggcctncca aagtgcgggg attacagacg 480
cgagctaccg tgcccag 497

<210> 540
<211> 303
<212> DNA
<213> Homo sapiens

<400> 540
atgagatagt agcatacatt tataatgttt gctattgaca agtcatttta actttatcac 60
attatttgca tgttacctcc tataaactta gtgcggacaa gttttaatcc agaattgacc 120
ttttgactta aagcaggggg actttgtata gaaggtttgg gggctgtggg gaaggagagt 180
cccctgaagg tctgacacgt ctgcctaccc attcttggtg atcaattaaa tgtaggtatg 240
aattaagttc gaagctccgt gagggaacca tcattataaa cgtgatgatc agctgtttgt 300
cat 303

<210> 541
<211> 574
<212> DNA
<213> Homo sapiens

<400> 541
cctcactaaa gggaacaaaa gctgggtacc gggccccccc tcgaggtcga cggtatcgat 60
aagcttgata tcgagttcct gcggcccggg ggatccacta gttctagagc ggccgaggtg 120
taaatttaac tgttagtcca aagaggaaca gctctttgga cactaggaaa aaaccttgta 180
gagagagtaa aaaatttaac acccatagta ggcctaaaag catgccacca attaagaaag 240
cgttcaagct caacacccac tacctaaaaa atcccaaaca tataactgaa ctcctcacac 300
ccaattggac caatctatca ccctatagaa gaactaatgt tagtataagt aacatgaaaa 360
cattctcctc cgcataagcc tgcgttcaga ttaaaacact gaactgacaa ttaacagccc 420

aatatctaca atcaaccaac aagtcattat taccctcact gtcaacccaa cacaggcatg 480
ctcataagga aagggtaaaa aaagtaaaag ggacctcgca aatcttaccc cgcctgttta 540
ccaaaaacat cacctctagc atcaccagta ttag 574

<210> 542
<211> 366
<212> DNA
<213> Homo sapiens

<400> 542
acgattccat cagttagctg cagcatcaac attcgtgaag gctttgcttc ccaaggtttt 60
ggggttactt gtgcttcagc tgtaactaga tcatttgttg tattctttcc tctcaacttc 120
tgtatctggg agtatgcagg ctgacttaca tcaaccaagg aattaatctg cagagcataa 180
aatccattta attctccttt tggaatttct aaaatgccat cgggtaaaag aggatgctcc 240
aaatccctca gatcagtaag gagccactgc tcaaacactt gtttattcat ttgggcctga 300
ctcaagttaa cattattatt ttcttcttga atccagttaa tacaagcttc cagccacatc 360
ggaggt 366

<210> 543
<211> 217
<212> DNA
<213> Homo sapiens

<400> 543
ggaatcgata agctcgatat cgaattcctg cagcccgggg gatccactag ttcgagagcg 60
gccgcccggc caggtaagac attggaacac tatacctatt attcggcgca tgagctggag 120
tcctaggcac agctctaagc ctccttattc gagccgagct gggccagcga ggcaaccttc 180
taggtaacga ccacatctac aacggtatcg tcacagc 217

<210> 544
<211> 373
<212> DNA
<213> Homo sapiens

<400> 544
accagaaagt gtgcacagga ttgggaatgt aaagatcatc aatgctaact cctgaccttg 60
agagctgtac aaacttattg gacacagaca agtggaaacc cgaaaagaga aagcagtcaa 120
ttctatattt ggaggaagat catgaaaggt tttacatagg aaggatttcc cctttggtca 180
atcagaaaag catgaattct atcaatagta gaaatctata aatcagtcta actatatact 240
agagaaaaca cacagaaaat gcaagtaagt ataaatatgt ccagtaattt cttaacatta 300
tctttttact aataaatata atgggagtaa aaacatcaat ctcacataag tgctaagagt 360
tttcaatatc aaa 373

<210> 545
<211> 217
<212> DNA
<213> Homo sapiens

<400> 545
acgataattg tgttgatttg tctgttgctt tttggattct ccaagatcca ggaaatgctc 60
atgagcatga ttctttgaga cagtgggtat tttattctct tttggaacag ttaagtgttt 120
tcttttctct tctgacctgt aagtctttat ttcttcttct ccctttgcag ttctccattc 180
ttcttgccta ctggctacac cagctgatag ctcgggt 217

<210> 546
<211> 258
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(258)
<223> n = A,T,C or G

<400> 546
ggggtttttct gggcagtggc tccattgctt cagtcttcat gattggtaag aattgaatag 60
gcccatttgt cagctttggc ttgtgtttcc tcggnggtgg tgctgatggg actgggggac 120
aggagccaag ggtccccacc atgggggccc tcgagccgnc tctctctcag gtagtggctc 180
ggcgctcaga cctgaagctc atcgtcacat cagccacgat ggatgcggag aagtttgctg 240
cctttttttgg gaatgtcc 258

<210> 547
<211> 242
<212> DNA
<213> Homo sapiens

<400> 547
agcacatcaa cttcagatct gtgacaccgg ccaggcagcc tgaatcaatt aatttgaaag 60
cctcgaagag catggacctt gtgccagatg aaagcaaggt tcactcattg gctggacaaa 120
aatcggaatc tccaagcaaa gattttggtc caactctggg tttgaaaaag tccagctcct 180
tggagagtct gcagactgca gtggccgagg tcaggaagaa tgacctttcc tttcacaggc 240
cc 242

<210> 548
<211> 202
<212> DNA
<213> Homo sapiens

<400> 548
gaaggtctag gtccatcaag gaaattcccc tccgttttcc tttgtcatgg ggtttatgtt 60
ttatttcaga ttttatttgt gtgacttaga aattccagga acacaattag gatattttca 120
tacacatagg gtatcttgtt cactgctgtg ctactttaca tgagtaggat ggaagtgtat 180
attttatatg aaataccact gt 202

<210> 549
<211> 309
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(309)
<223> n = A,T,C or G

<400> 549
gcgcatctat agggcgagtg gcggccgagg taccccctgat taggaatcag gcagcctcgg 60
ccaaagcagc aggggcagca gaccttatgg acatatttgg tccattttgg attgagttga 120
ccataaggct cttctgattt gggtttaaac acaccaataa ttttcctctt aggatccttc 180
acaaagtaac ttccacttga accttgagag attctntctg gaaaaattcc aaacttctat 240
ggcttgctct gctctcagca taatatcagc aaattctggg tcatccaaga atgcattcat 300
ctctgaagt 309

<210> 550
<211> 326
<212> DNA
<213> Homo sapiens

<400> 550
acatgtaaaa tcttactgca gttttatgtt tttaatagtc aaaatagaat gtataatctt 60
gatgatgttt ataaatcatc aaatgccctt tggggtgtaa aaatgggttc ttgagcagca 120
gtgtctaatg attccatcac aaatttgtta taaagccaaa ctcccattga aagtgtcact 180
ttatgcttaa taggaaatcg ttatgattaa agcatcaagg aagcaaatat aaagtttaat 240

gaaaatccaa ggggaagttc taaattgcaa aacttggcac ttatctacag tattttgaaa 300
aataacacca ccggtattca aaccta 326

<210> 551
<211> 461
<212> DNA
<213> Homo sapiens

<400> 551
gtaccccagc agtgtcaagg caggaggctt cactcaagcc ctgttccttc caggcctcac 60
agcagtggga atttacctca gctgatagag ggagatcgta caacacattt ctcaatctag 120
attcatgtct tgagacccca ccccaagatc aaaagctcct tagtatctta ctctgcccac 180
cttattgtaa ggcccctctc tcatggacct aatccctcag gatcctaata aaatgaacaa 240
cattgggggg aaaaaaggta aacctttatt tgtaaaaaga gtttaaataa caatttaaaa 300
ccccatttca ctttcaaaac ataaacatga aagcaaggaa aagataatct atcacgcatc 360
tgccctctgc tgtggttagc cattttaaag ctgcatttcc cagcacaaga gaacagtgat 420
gggccctact cctaggaacc cacagggcac tgtcttgaga c 461

<210> 552
<211> 533
<212> DNA
<213> Homo sapiens

<400> 552
atagactcct ccttagaggt gtctagcagt aggaaatatg ataagcaaat ggccgtgcct 60
tccagaaata caagcaagca aatgaatctg aatcctatgg attcacctca ttcccctata 120
tcccctctgc caccaacact cagccctcag ccacgaggtc aggaaacaga gagtttggac 180
ccaccatcgg tccctgtgaa tccagccctt tatggaaatg gactagaact ccagcagttg 240
tctactctgg atgacagaac tgtcctcgta ggccaaagac tgcctctcat ggcagaggtc 300
agcgagacag ccttatattg tgggattagg ccctcgaacc cggagtcatc agaaaagtgg 360
tggcatagtt attgtctccc acccagtgat gatgctgagt tcaggcctac agagctccaa 420
ggtgagagat gtgatgccaa aatggaggta aactcagaga gcactgcatt gcaaagactc 480
ttagcacaac ctaacaaacg gtttaaaatc tggcatgaca aacagcccca gtt 533

<210> 553
<211> 228
<212> DNA
<213> Homo sapiens

<400> 553
acttcagatt taacaaaata aaaagtttgg tcttttctta tgctgtagga gctgaggcaa 60
cttgcatttg tgatactcaa taatacctga tttttcagct catagggggga aggcaagata 120
ccagttaaca gttagcacca gtaaacttag ttcggcagat ttcaaattct tattttttct 180
tctacatagt gtagtataca tactgttggc acttaacaaa gaacatgt 228

<210> 554
<211> 249
<212> DNA
<213> Homo sapiens

<400> 554
acttagacct ggtatggaga ccccacgggg tgggaaaggg cttccctctg ccttgacaat 60
ttccttgaat atccagccca gtaagaatgt gttttacatc atgactttag ataacacgtt 120
tataactgaa gcaaaagctc gaagaaacaa cacttaactg tactacagga gtgtacaccc 180
catgcatttt taattccaat tttgtgtgtg tgtgtgtgtg tgtgtgtgtc tgtctgtgtg 240
tgtgtgtgt 249

<210> 555
<211> 454
<212> DNA
<213> Homo sapiens

<400> 555
cacaggcccc cttcaatggc cgcattcagg atggctctat acacagcagt gctggtttat 60
gtagagttca gcagtcactt cagagatgta tcttgtcttt gtcaggccct tcatcttcat 120
ggcccacctg ttttctgccg tgacctttgg tcccattgag gactaaggat cgggaccctt 180
tctttacccc ctacccattg tggctcccac cctgcctcgg actggtttac gtgtcctggt 240
tcacacccag gacttttctt tgcaagcgaa cctgtttgaa gcccaagtct taactcctgg 300
tctcgtaagg ttccactgag acgagatgtc tgagaacaac caaagaaggc ctgctctttg 360
ctgcttttaa aaaatgacaa ttaaatgtgc agattcccca cgcacccgat gacctatttt 420
ttcagccgtg ggaggaatgg agtctttggt acct 454

<210> 556
<211> 229
<212> DNA
<213> Homo sapiens

<400> 556
tgactcttga cccatattat aaaatataat ccaagccaga ttagtcaaca tccataagat 60
gaatccaagc tgaactgggc ctagattatt gagttcaggt tggatcacat ccctatttat 120
taataaactt aggaaagaag gccttacaga ccatcagtta gctggagcta atagaaccta 180
cacttctaaa gttcggccta gaatcaatgt ggccttaaaa gctgaaaag 229

<210> 557
<211> 392
<212> DNA
<213> Homo sapiens

<400> 557
accacattcc tgctcagaaa ctgctcactt ccttaaattg tctttttttcc cccagcgtga 60
aatgtatcca tttataactg cctattgcct gttctattag catccaaaaa tgtggaaggc 120
ctcccaacca ccatttctgc tgtgtcctta ggatgtgcag taaaaaatat agacctaaca 180
gtttatgtta tagaatggct ttatttactt tggtgactgt ttatagtttt taaataaaag 240
actgaacatt ttcttgagtc cttcatttct gagtatgctt aagacatctt aaaaatatag 300
agagaattct aaattcagct gaaggcaagg tataacggtc acctacctat ttgattatat 360
gttgattgat aacatattaa atagagaaca aa 392

<210> 558
<211> 407
<212> DNA
<213> Homo sapiens

<400> 558
actaataaac tcaatgatct agcagaaatt tgctgaaaga gggcaaaaga ggacaaagat 60
gatcttaaaa aaatgaacta tttgagtgga atttggagga aatgtaaaat gtcagccagg 120
aattctttaa gaaacagttt ctgagcatag cagggtaggg gaagatgaat cctttgctaa 180
gactttagaa agacctaggc agtgccttcc agaactttca gacagacaaa aggcactctc 240
cagatcttaa agaaatgtgt aacagaaact cttattgttc aaaaggccgg atctaagagg 300
caaggattta agatctaaaa ggtgctgtcc cataggaacc tcacagggga cccaagatga 360
gaagggtttt gtgtcaaaga gacttatggg tatggttttc gtctaat 407

<210> 559
<211> 220
<212> DNA
<213> Homo sapiens

<400> 559
ccctgcaggc ctctgccctg aaggcctggg gcgggaagaa ggagaacctg aaggctgcgc 60
aggaggagta tgtcaagcga gccctggcca acagccttgc ctgtcaagga aagtactaca 120
acgaggccac aggaggaaat tatgtcccca gagcggtgct ggtggacctg gaacccggca 180
ccatggactc tgtccgttct ggccccttcg gtcagatctt 220

<210> 560
<211> 372
<212> DNA
<213> Homo sapiens

<400> 560
acaagttgat ttttaaggaa atttgtgcaa acattaagaa acaccgcatt ggttctgggt 60
gaaagtgcca gtctggaact ctcttgaaag accatacagt ctactgctaa accctgggac 120
tgctcagact tgcactcaga ttatcgtttg cctgccctga ttgtagactc tgctaattca 180
agtccctgtt atcttgcttg acatcgacaa ggatcaccgc accgttcctt cagtttccac 240
agttccgtca gttcccacgg agaatactga ggagaagaca gcattcctgt ctcacaagtc 300
ttctcacaca gccactgact gtcctggtat cttttaggtc ctatggcagc catccagatg 360
cccatgctta ca 372

<210> 561
<211> 311
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(311)
<223> n = A,T,C or G

<400> 561
tggcggccgc ccgggcaggt acaatcactg agatctctct taactaaaac tgagaattgg 60
ctacagaaaa taagttgtga catgaagata aaatacatat tggcaaaata taacacactg 120
aatcccttgg ctacattaaa tccttaatat tggtgaattc attttggctt tatattttaa 180
aaaaatattt attttaaaca tgaaacttat ttttttaaca aagtgtctat tactattccc 240
gtatctaatg cagtaaagaa tacagntttt taaaaggaaa atagttgggc atctgtttga 300
cagaaatgag t 311

<210> 562
<211> 304
<212> DNA
<213> Homo sapiens

<400> 562
actcatttct gtcaaacaga tgcccaacta ttttcctttt aaaaaactgt attctttact 60
gcaatagata gcggaatagt aatagacact ttgttaaaaa aataagtttc atgtttaaaa 120
taaatatttt tttaaaatat aaagccaaaa tgaattcacc aatattaagg atttaatgta 180
gccaagggat tcagtgtgtt atattttgcc aatatgtatt ttatcttcat gtcacaactt 240
attttctgta gccaattctc agttttagtt gaagagagat ctcagtgatt gtacctgccc 300
gggc 304

<210> 563
<211> 398
<212> DNA
<213> Homo sapiens

<400> 563
atagactcct ccttagaggt gtctagcagt aggaaatatg ataagcaaat ggccgtgcct 60
tccagaaata caagcaagca aatgaatctg aatcctatgg attcacctca ttcccctata 120
tcccctctgc caccaacact cagccctcag ccacgaggtc aggaaacaga gagtttggac 180
ccaccatcgg tccctgtgaa tccagccctt tatggaaatg gactagaact ccagcagttg 240
tctactctgg atgacagaac tgtcctcgta ggccaaagac tgcctctcat ggcagaggtc 300
agcgagacag ccttatattg tgggattagg ccctcgaacc cggagtcatc agaaaagtgg 360
tggcatagtt attgtctccc acccagtgat gatgctga 398

<210> 564
<211> 402

<212> DNA
<213> Homo sapiens

<400> 564
acgacatgtt tgtgaatttc ctagaccagc cggtggtgtg gagagaaatc agcattatta 60
catcagcatt aaggaacgat tcacaggaca aacaaaccca ttttttaaga agttaatttg 120
aaactcttcc tggtcgagtc cagtgtgaaa tgttactaaa ggtcacggaa caatgcttca 180
acacgttaga acgatcagaa atgttgcttt tacttttgag gcgctttctt gaaaccggtg 240
tgcaacatgg ggttggcctt ggtgaggcac tattagaggc tgaaactatt gaagaacagg 300
aatttccagt gaactgcttt agaaaattat ttgtttgtga tgtccttcct ctaataatta 360
acaaccatga tgttcgatta cctgccaatt tattgtataa gt 402

<210> 565
<211> 250
<212> DNA
<213> Homo sapiens

<400> 565
accaaagact ccattcctcc cacggctgaa aaaataggtc atcgggtgcg tggggaatct 60
gcacatttaa ttgtcatttt ttaaaagcag caaagagcag gccttctttg gttgttctca 120
gacatctcgt ctcagtggaa ccttacgaga ccaggagtta agacttgggc ttcaaacagg 180
ttcgcttgca aagaaaagtc ctgggtgtga accaggacac gtaaaccagt ccgaggcagg 240
gtgggagcca 250

<210> 566
<211> 160
<212> DNA
<213> Homo sapiens

<400> 566
acacagaaaa gcggttacca gcacaggact ctgggttcct gtcctacctc ttgcacttgg 60
gcaaaggact taacctcctt atgcctctgt tgctttgtat aaaataggga taattatggt 120
aataccacag tttgttttga tgattaagag ttgatacata 160

<210> 567
<211> 273
<212> DNA
<213> Homo sapiens

<400> 567
actgtcctga gtggtttgga aggtgggtag ccgctgatac agggacaggc agatgtgcag 60
acgcttacca ccctggtcca ccgatcccac cccatgcttc cacctcccag agctcttgag 120
ataagacctt aagaaggatc cttgggcttg cattaaaacc actttgctgt ccgtggaggt 180
ctaacaggac ccaatagttg ttactacaaa agtgcttttg caaatagggc aagttagaag 240
aaggaggtaa tatgaatatt cttttagaaa aac 273

<210> 568
<211> 415
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(415)
<223> n = A,T,C or G

<400> 568
acctttacat aactggcatg tttgattttt aacaaggccc tttggaggta accagagcaa 60
gtgccattag cctttctgta ggtgaataag aggaggcttg gagaggtgcc cagagccaca 120
cagcctccta agaggccaca ctggcatgga atcaggtcat cagccctgca cgtggcatgt 180
ggtctctcgg tatttccaat ggccagtgcc aggacatcag gtctgtgaga ttaaaatagt 240

agaaaaagat gagggaaaat gtttcatagg gttcccaggc atcagcgttt agaactggaa 300
gacacttttc actgcatagt ttgtcagaaa atgcttaaat ttcattggtc agaatgatat 360
ctagcttaca agttatctga acttttaaaa atgnggtggt tttctttttt tggtg 415

<210> 569
<211> 277
<212> DNA
<213> Homo sapiens

<400> 569
attccaagcc agagctcagg tcacaggcac aggggctggc ccttcttgtc cacagcctta 60
tgcagctgtg gagtctggaa gactgttgca ggactgctgg cctagtccca gaatgtcagc 120
ctcattttcg atttactggc tcttgttgct gtatgtcatg ctgaccttat tgttaaacac 180
aggtttgttt gcttttttttc cactcttttt tgacatggga gaggcattat ttttaagctg 240
gttgaaagct ttaaccgata aagcattttt agagaaa 277

<210> 570
<211> 161
<212> DNA
<213> Homo sapiens

<400> 570
acacagaaaa gcggttacca gcacaggact ctgggttcct gtcctacctc ttgcacttgg 60
gcgaaggact taaccttcct tatgcctctg ttgctttgta taaaataggg ataattatgg 120
taataccaca gtttgttttg atgattaaga gttgatacat a 161

<210> 571
<211> 243
<212> DNA
<213> Homo sapiens

<400> 571
gggcctgtga aaggaaaggt cattcttcct gacctcggcc actgcagtct gcagactctc 60
caaggagctg gacttttttca aacccagagt tggaccaaaa tctttgcttg gagattccga 120
tttttgtcca gccaatgagt gaaccttgct tttcatctgg cacaaggtcc atgctcttcg 180
aggctttcaa attaattgat tcaggctgcc tggccggtgt cacagatctg aagttgatgt 240
gct 243

<210> 572
<211> 162
<212> DNA
<213> Homo sapiens

<400> 572
cttttttttt tttttttttt ttttgttttg ggtttttttt tttttttttt ttttacccct 60
ttatgtattt atttatcaaa acactcgcaa acctgacctt actcaccaac acacacacac 120
aaccaggaca catgtgccag gccttatgaa aggctatcaa gt 162

<210> 573
<211> 394
<212> DNA
<213> Homo sapiens

<400> 573
actttatgtt accaaccaaa tttggctgct gcactcatta agaatgcaac ttaaaaaatt 60
ttggttaaca aaaagagtaa tttgattata caagatcttg tatactgaat aatttataat 120
aatctaccac tgtctaaaag tgtaagaatc aaaacagcca tctaatttag tttcagaatt 180
atagatgaat acagataatt ataggtgacc caattccaac taaaaaatcc agagttgaca 240
actccagata tgtagccatg cttgtgtctt tctagtcaca gctcaaccta cccttcagtt 300
tgaagcagtg tggtgccatg gtgaagacta ctgattttag agctttgaat ctcggttctt 360
attactatgt gacctgtgtg accttgggca aggt 394

<210> 574
<211> 366
<212> DNA
<213> Homo sapiens

<400> 574
actgtctgat gacgggtgag ggcagagttc ttagtgaagc ctctctcaca gtgagaacac 60
ctgtaaggct tttcaccagt gtgggttttt cggtgggcac tgaagtggga gctattgttg 120
aagattttcc cacacactgc acaactctgg tgactcatct tctcctggga tggggttttc 180
tcctcactct cccctggaga atttctacat tgccttcttg atgttggctc actctccaag 240
cctttttgta gctcagagtg ccaataaact cctctggact ttctctgtaa agccttgttt 300
atttctactt cctctgaatc atcccatttt agatttttct tttttaaatc tcgttcttga 360
actcaa 366

<210> 575
<211> 407
<212> DNA
<213> Homo sapiens

<400> 575
cgcgtccggg agaacggatc cgacgtatcc tgaagggaaa gtccattcag cagagagctc 60
caccgtatta gctccattag cttggagcct ggctagcaac actcactgtc agttaggcag 120
tcctgatgta tctgtacata gaccatttgc cttatattgg caaatgtaag ttgtttctat 180
gaaacaaaca tatttagttc actattatat agtgggttat attaaaagaa aagaagaaaa 240
atatctaatt tctcttggca gatttgcata tttcataccc aggtatctgg gatctagaca 300
tctgaatttg atctcaatgg taacattgcc ttcaattaac agtagctttt gagtaggaaa 360
ggactttgat ttgtggcaca aaacattatt aatatagcta ttggaca 407

<210> 576
<211> 437
<212> DNA
<213> Homo sapiens

<400> 576
cccacgcgtc cgacgactca ctatagggat ctagatcacg agcggccgct agactagtct 60
agagaaaaaa cctgccacac ctgcccctga acctgaaaca taaaatgaat gcaattgttg 120
ttgttaactt gtttattgca gcttataatg gttacaaata aagcaatagc atcacaaatt 180
tcacaaataa agcatttttt tcactgcatt ctagttgtgg tttgtccaaa ctcatcaatg 240
tatcttatca tgtctggatc cccgggtacc gagctcgaat taattcctct tccgcttcct 300
cgctcactga ctcgctgcgc tcggtcgttc gggctgcggc gagcggtatc aactcactca 360
aaggcggtaa tacggttatc cacagaatca agggataacg caaggaaaga acatggtgag 420
caaaaggcca gcaaaag 437

<210> 577
<211> 540
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(540)
<223> n = A,T,C or G

<400> 577
actcataaga ggtccatctc taaattgccc tcctcttact tcttcccccct gcctcatgtt 60
ttttctcttt aatgactagc atcgaaactc tttaaatggg gcaggcctgt gttcttatct 120
caggaatagt aagaaaaggg ggttgggaac aggggaaatc cagaataaag acttgagaaa 180
ggaacagagt gggtgatggc agctatgaag aaaaaacaga tcagaagaag agtcctggca 240
ccttaggaag agaaagtgtc acagacacga ggcctaggct agagagatgg tgtaggtggt 300
agctgctgtg aagaagaaat gacaacaggc tggagctgtt ccctgaaacc tgtgggaagg 360

aagagagacc tgcacaggcc ggtacttagc ttgtggagaa ggtcctaact caacactgca 420
actttaagct ggcttaactt gtccaagttc cagatgacca acaaagacag ctatagacac 480
tctaactctg tgccaattac ccaaagcctt cnaggccctg ggacctattc catgatagtg 540

<210> 578
<211> 135
<212> DNA
<213> Homo sapiens

<400> 578
actagaccag tggagaattt gacacctttt ctttttgtaa aagtttatgg tattataccg 60
atagaccaaa acagcatgtg taagaggcag tatctgcact aattctcaac atgctaaaca 120
ttaactacaa ttcac 135

<210> 579
<211> 820
<212> DNA
<213> Homo sapiens

<400> 579
gcgtccgggg acagattgcg ctgagacctg gttatgagca agccaatctt ttgaatctag 60
agaatggaat tcttaggttt atatgtctgt taagaaatac tataaatatg actcttatga 120
gaagactttg ttgctctgta gtgtttctga atactgtatt tgttggattg atcaaggcta 180
tttttcaaaa agctctctgc ttcctgtttg tttgtttgtt tgtttttgag acagagtctt 240
gctctgtcgc cggggctgga gtgcaatggc gtgaactcag ctcactgcaa cctctgcctc 300
cctggttcaa gctattctcc tgcctcagcc tcctgagtag ctgggattac agggccacgc 360
ctggctaatt tttgtatttt tagtagagat ggggtttcac catgttggtc aggctggtct 420
caaactcctg accttgtgat ctgcccacct cagcctccca aagtgctggg aagacaggcg 480
ttagccaccg tgcccggcct ctgtttcctg ttattagtga ttttcctgcc caagattgca 540
acaacaaata tgtagaacta cagactgttt agaatgctga gactgttcta agaaactttc 600
aaaaacagta gcacttcaag gaatggtcac tttctatgaa agaaactggt ttgatagcca 660
taatcttatt gctagctgct tttagcaaaa gtcttttctt gaaaccacca cctatactct 720
ttaaacaaat aaaaactaaa atctcttgct aatgtttcag gaagatttat tttttctatt 780
ttgctattgt ggcgaaaatt attttcagtt ataggatact 820

<210> 580
<211> 379
<212> DNA
<213> Homo sapiens

<400> 580
acaatgtaga actctgtcca acactaattt attttgtctt gagttttact acaagatgag 60
actatggatc ccgcatgcct gaattcacta aagccaaggg tcgagcggcc gcccgggcag 120
gtacatgcat ttgaatgaca ttttaggaac agtaaatatt cttttaaata ctgcaagtta 180
aaaatgtttt ctgacaaaac tccctaaata cataggtcta gtaagggttt ccaacaggat 240
gatgggtgag gaatccagca aggagttgca tttagagagt tctttgagga aaagaaatcc 300
accaaaaacg tgttttagtc aaagtaacct ggacaaagtt acgtagtatt attccagctt 360
ttttcctgaa cttaaaaat 379

<210> 581
<211> 160
<212> DNA
<213> Homo sapiens

<400> 581
acacagaaaa gcggttacca gcacgggact ctgggttcct gtcctacctc ttgcacttgg 60
gcaaaggact taacctcctt atgcctctgt tgctttgtat aaaataggga taattatggt 120
aataccacag tttgttttga tgattaagag ttgatacata 160

<210> 582

<211> 160
<212> DNA
<213> Homo sapiens

<400> 582
tatgtatcaa ctcttaatca tcaaaacaaa ctgtggtatt accataatta tccctatttt 60
atacaaagca acagaggcat aaggaggtta agtcctttgc ccaagtgcaa gaggtaggac 120
aggaacccag agtcccgtgc tggtaaccgc ttttctgtgt 160

<210> 583
<211> 495
<212> DNA
<213> Homo sapiens

<400> 583
acagaattca gggccttttt gctgccgttg tcaatgaact ctcggagttg gccctgcctt 60
attaaatttt aatcaattat ctttctaagc atcaagatgg ccatgtaaac actgttttta 120
agaccacgtc taccggctgg gcacggtgga tcatgcctgt aatcccagca ctttgggagg 180
ccaaggcagg aggattgctt gagcccagga gttcaagacc agcctgagca acatggcaag 240
accctgtctc aaaaaaaaaa aaaaagtata ctacctgatt tctaaaatta ccaaagtgcc 300
ccttttccc cccattattt aaaaaatatt gttctagctc tgcgcttaag gtctggacct 360
ttcttttta aaatgttata tttttataac atcttattat taccaccacc aaaaaaggac 420
tcagtttctc ccactttaca ctatatctct gtccccaaaa taaataactg aagcatttat 480
ccgcaatttt tttaa 495

<210> 584
<211> 413
<212> DNA
<213> Homo sapiens

<400> 584
actctatgtt gttgttttat tgtgtgaaat tttattttac taataatatt catgatatat 60
tttaactaat tgtcataaat taagagtatt gtatccaaag cagccagaat attagatgtg 120
gtcataaaat aagtttccaa attttgtctg aataactagg attagaaaga agtaactaaa 180
aaatggtttg gacattcaaa tttggataga aataaaattt attttcataa gtcaatccta 240
acacttgagc ttcatgtaaa tttttccaaag tcattcatat tttgatcatt actgtcggac 300
ccacaaatat ttggaaattt tttttaaatt aaaaatgttc ccacttaatt gctttgagct 360
cgctatgagt tcctggaata ttttgtccaa gcaaatctat aattacaaac act 413

<210> 585
<211> 272
<212> DNA
<213> Homo sapiens

<400> 585
acacacgata taccaggccc tgaatcactt acggatgtta tctataaaat tcaaacgttc 60
caacaagagg ggtattattt tcccattttt ctgatgaaga aactgaggct ttggagtatt 120
aggtgtaact ttcccaagct cttacagtta ataagtatta gagctggcct tcaaacccag 180
gtgtctactc caaaagactg tgaaaggatg aagatgatgg tgatcgtaac aatgggtgga 240
acaataaaaa caatgggatg tctttttatt tc 272

<210> 586
<211> 423
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(423)
<223> n = A,T,C or G

<400> 586
agactccatt cctcccacgg ctgaaaaaat aggtcatcgg gtgcgtgggg aatctgcaca 60
tttaattgtc attttttaaa agcagcaaag agcaggcctt gtttggttgt tctcagacat 120
ctcgtctcag tggaacctta cgagaccagg agttaagact tgggcttcaa acaggttcgc 180
ttgcaaagaa aagtcctggg tgtgaaccag gacacgtaaa ccagtccgag gcaggggggg 240
agccacaatg ggtagggggt aaagaaaggg tccngatcct tagtcctcaa tgggaccaaa 300
ggtcacggca gaaaacaggt gggccatgaa gatgaagggc ctgacaaaga caagatacat 360
ctctgaagtg actgctgaac tctacataaa ccagcactgc tgtgtataga gccatcctga 420
atg 423

<210> 587
<211> 336
<212> DNA
<213> Homo sapiens

<400> 587
actgtggctg caacatatgc cttgccatca gatacaatag ttaggcttcc tatccacatc 60
ctatgcagta aaaaagcttt aaatctgaat ggaacatctg cagaattagc ttacagacaa 120
ctcagaagca ggaacacttt ggtccgtgtt caaataaaat gaaggttgag attctttatg 180
cagcagcagg agaagtagga ttctgaatct ctctttggag tcaagttggt ctttgaaaga 240
aaaccaattt gcttttaaga gattctagtc tagcaggata ccagatgatg gcaagtgtgc 300
ttaaaccaag ggtgctgtat agactaaggg actggt 336

<210> 588
<211> 526
<212> DNA
<213> Homo sapiens

<400> 588
gcactgtgta ttgatggtcc aaaaaggttt tgctccaata gcaaatcgag cggccgcccg 60
ggcaggtacc tgtgttatgc ctgtgctcca gcagctcatt gcctctggca tgaactcttc 120
taggtttgga aattccactt taaatatgag gaaatgtctg ctcatgtaga tgatatgact 180
tgccctagaa cacaaatcta gaaaatgcag caaccagaat gttacccatg tttgttgaac 240
accgaaatct agcctcttcc catgactggc cccctctctc tgagcagtaa tagtgagcat 300
tgctggccac cagggccacc catccttact agggctcctg gtccctactg cacaaaattc 360
tgttatttgg gattcagacc tctggaaaaa caaaaatgga gtttctagag ttcaattgtg 420
ccaaaagaca attgtcatca catctcctct tggagaaggg aacatgtcag ggttgtttgt 480
gttcaggcag caggagttcc cctaactcgt gggaaaagca actgca 526

<210> 589
<211> 173
<212> DNA
<213> Homo sapiens

<400> 589
cgatcgcctt ttcgacacct ctgcctgagc ctgctgctag ccctgcctgg ttccaccaga 60
ctggcgtgtc attggacaga taaaccagtg ttagcttgca aaaaaaaaaa aaaaaaaaaa 120
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaggct ttt 173

<210> 590
<211> 509
<212> DNA
<213> Homo sapiens

<400> 590
acttagccaa tggagaagac acttcagtgg ggcattccac aaataaatgc tttaagactc 60
aggctaaatc ttgaccaaaa attaataaac tgacaaaaaa gatactgtct cagcattaac 120
aggaattttt tttagaagtc acaggaacta tatctattgc aattagagat actgaataag 180
gcttaaactt aataaataac aagtgaggaa gatcaaatcc caagtctggc cacttagcaa 240
agcctcattg ttgaaggtta tccaagagtg tttccccttg tgccatgggg aaaataatcc 300
ccgttcaata gctactacct atacctaccc agaggtgcat gggaataatc ctattccgac 360

agaaggtagg ggagcaacta ggtaaaggcc ttagtgtctg aaaggatagt gcttcacacc 420
agattctctc tgaaaccctt agtaatgact atgataaatc atgaggcaat gacacacctt 480
ttactgttct caaataacaa gatgtcatc 509

<210> 591
<211> 606
<212> DNA
<213> Homo sapiens

<400> 591
actcatctga tgacaaaatc tttcaaacag aaacaaaaca atatatggac cagcccaaag 60
tttatcagtc ggaagccaag acgatgttac agaatgtatc tgctgaagta tgtgttccag 120
taactctggt tccagttcag atgcctgaca ctccgagtga cctagtgcgt catactacca 180
cactcccacc atcttctcat gagattctgt caccacagcc acagtcaact gattatccac 240
gagcagcgga tttagctttt ctggaaaaat atactcttac tcctcaacct gcaaatatag 300
ttcacccagt tcgacctgaa caaatgctag atcctagaga acaatcttat cttggaacat 360
tactgggcct tgatagcact actggtgttc aaaatatttc tacgaatgag catcattcat 420
gagtaaatct aaacattcca cagatttttg gatggttata tgctaatggt agagatgata 480
gcttttaaat ttgtggggct gctattttct tgttttctct agtttctcaa gtcctcagaa 540
cagtttcaaa tcaagaaaac tatgtgtctc tgtttactga acatgaatat ttggacaaaa 600
tttctg 606

<210> 592
<211> 397
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(397)
<223> n = A,T,C or G

<400> 592
caacctcatt aacctcacta aagaaaaaaa cttataccga acccccctct aatcaactta 60
tcataacttt tatcaattcc tcaccccaat cnnnnnnnnn nnnnnnnnnn nnnnnnnaaa 120
caagtactca ttaacatacc ttaaaatttt ctctataata ataaaactta aaaactctat 180
agaatttttt ttccccattg atgtttagna aagtttgaga cttaaacagn aaattccata 240
aaatatctgc ttcatatcac ctattttaca tttccttttt gattcatgct ttcttgtaag 300
gtttaaattc attaacgtta atagttaatt ataacttttt ttttaactta aaaggattca 360
cttttaatca ccaactaaat taaatcatgc tatttaa 397

<210> 593
<211> 133
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(133)
<223> n = A,T,C or G

<400> 593
cgcggtggcg gccgaggtac aagctttttt tttttttttt tttttttttt ttgggagagc 60
aggctttatt tgcatccccc aggacagatc tggggaggga gtcgggggat ttggggttnt 120
tttaccancc tcc 133

<210> 594
<211> 297
<212> DNA
<213> Homo sapiens

<400> 594
gcccttacat accaaagaaa taattatgct ctgaacacaa cagctaccta cgcggagccc 60
tacaggccta tacaataccg agtgcaagag tgcaattata acaggcttca gcatgcagtg 120
ccggctgatg atggcaccac aagatcccca tcaatagaca gcattcagaa ggaccccagg 180
gagtttgcct ggcgtgatcc tgagttgcct gaggtcattc acatgcttca gcaccagttc 240
ccatctgttc aggcaaatgc aacggcctac ctgcagcacc tgtgctttgg tgacaac 297

<210> 595
<211> 423
<212> DNA
<213> Homo sapiens

<400> 595
actggctgtt gaccaccaaa cacctgaccg caaatatctt ttcttgtatt cccatatttc 60
tagacaatga tttttgtaag acaataaatt tattcattat agatatttgc gcctgctctg 120
tttacttgaa gaaaaaagca cccgtggaga ataaagagac ctcaataaac aagaataatc 180
atgtgaacgt gaaaaaaaaa aaaaaaaaaa aaaaagggct tggccaaggt tttttttttgg 240
gtttaaaaaa gccttttaaa attaaaaagg gtataagggg tttttcccac ccaaacccgg 300
caacaaaaat tgggttaaaa attggggggg gggctttccc ctaaaagaaa aaaaaaaacg 360
gccttttatt ggcctttaaa aaggggcggg gggggggtaa ttttcccgcc ctttttgggc 420
ccc 423

<210> 596
<211> 572
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(572)
<223> n = A,T,C or G

<400> 596
gagaaagtga tatacatact acataattgt tctgttggtt aatatgccca aaataatagt 60
tactatcatt acatcttaca gaaacaaaaa ctttaagctt attacttttc agaaggaaaa 120
aagtatccta taactgaaaa taattttcgc cacaatagca aaatagaaaa aataaatctt 180
cctgaaacat tagcaagaga ttttagtttt tatttgttta aagagtatag gtggtggttt 240
caagaaaaga cttttgctaa aagcagctag caataagatt atggctatca aaccagtttc 300
tttcatagaa agtgaccatt ccttgaagtg ctactgtttt tgaaagtttc ttagaacagt 360
ctcagcattc taaacagtct gtagttctac atatttgttg ttgcaatctt gtgcaggaaa 420
atcactaata acaggaaaca gagggccggc acggtggcta acgcctgtct tcccagcact 480
ttgggaggct gaggtgggca gatcacaagg tcaggagttt gagaccagcc tganaacagg 540
gtgaaacccc atctctacta aaaatacaaa aa 572

<210> 597
<211> 594
<212> DNA
<213> Homo sapiens

<400> 597
acttttgcaa aaagtcgact gtgactgtgt agcattatgt tctgtagaat ttttttcaag 60
tagcataatt tatttcattg gtgtgaaaac agccaaaggt tccaatatcc tcacaaatca 120
tttatgccaa acatctgagg caaaatttag ccggtgttat ttactagatt cttccctttg 180
aactcacaga ctcaagagac agaccaagag ttcttatata ctcaccacag cggaccaatc 240
caagtggcat ttttaggaaa ggttgcagca tttaatgcca tgtggtatgt ctgttcgtca 300
agtgggtggc aagggaatat ccaagctggc atttggata tgatgggcct tttactttcc 360
tgagtgacat gccacatgtc aagaaatact gctccccacc cccccactcc catcacattt 420
acgtgaacaa ttttcattta gttatttccc gttccatatg gtgttaaaac agtcgtatta 480
aataaagatt atttctaggt ttcagtggta atttaaatga gaggatatgt aataattgct 540
tattagatac ttatccaaat gaaatataac agagtttaca gtacctgccc gggc 594

<210> 598
<211> 419
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(419)
<223> n = A,T,C or G

<400> 598
acagactctc tcccatgctg gattaaactt cttaaatact tggaacatct gggccaggcc 60
ttcagtgtcc tccttggcag ggatggcaaa gtagactgct cgggcaagat gaccctccag 120
ctgcacccga ggtccatcca ccaggaaggt atataagacc ttaccccttg ggttataggt 180
ccggtggata aataagatct cagggaaatg gtcaaagaca ctttgcataa agcagctctg 240
gtagttgaag gtatctaact gggcagtctt gttaacctgg tgcagcagca taggtgggct 300
tgagtcctta atcaggagcc cattcagcat tgtcagggcc atgggagaga tgagagctgt 360
ccaaatgcca aggtcaaaat actttctttg cagggcaact gaccacggng ctttgagtc 419

<210> 599
<211> 192
<212> DNA
<213> Homo sapiens

<400> 599
acattttctc tgctgcaacc caggatttgg gcttatgatc aggaggaatg gtgattccat 60
attcccagcc tttctcatcc accactcgat ttatgtcata agaccatgca tcatcttccc 120
attcccaacc tggaggacaa gtcaactcgc tgggtgatgc tgctttatcg ccgttcgcat 180
ccgtgtaggt gt 192

<210> 600
<211> 299
<212> DNA
<213> Homo sapiens

<400> 600
acaaaaagcg ttaacccaaa attaacccaa actggtaaat tggtaagtgg ttcttcaatc 60
aaaattttaa aagaccatca aagccacctt taggaaaagg agaagacaag tcacagactg 120
tagaagcgtt tgcagtcaca caaaagggtc ctcaaaccct ttaaggaaaa tgtgtattgt 180
gaaaaactat gcatagatgt caaaaattgt gcaaaaataa actcatacta atttgttata 240
acatgtctga acaggatctg gtgtgaggca ctaacaagga taagacatca gtttgggcc 299

<210> 601
<211> 424
<212> DNA
<213> Homo sapiens

<400> 601
attaaccctc actaaaggga acaaaagctg ggtaccgggc ccccccctcga ggtcgacggt 60
atcgataagc ttgatatcga attcctgcag cccgggggat ccactagttc tagagcggcc 120
gccaccgtgg aggagctcca attcgcccta tagtgagtcg tattacgcgc gctcactggc 180
cgtcgtttta caaacgtgtg actgggaaaa ccctggcgtt acccaactta atcgccttgc 240
agcacattcc ccttcgcca gctggcgtaa tagcgaagag gcccgcaccg atcgcccttc 300
ccaacagttg cgcagcctga atggcgaatg ggacgcgccc tgtagcggcg cattaagcgc 360
ggtgggtgtg gtggttacgc gcagcgtgac cgctacactt gccagcgccc tagcgcccgc 420
tcct 424

<210> 602
<211> 217
<212> DNA
<213> Homo sapiens

<400> 602
gcttccagtc gcccccgggg tagcggctct cgttctgata gacttcatca gtgaactccg 60
tgtgacctgc atctgcctca gtcagcaagc ttctttcagg atcaactatc cactctcctt 120
cccattccca gccttttgga ggcagaaaaa attccctctt gagttttatt tttcccgtga 180
catcagaaaa cttatgacgt cctactaatc cagaagt 217

<210> 603
<211> 217
<212> DNA
<213> Homo sapiens

<400> 603
gcttccagtc gcccccgggg tagcggctct cgttctgata gacttcatca gtgaactccg 60
tgtgacctgc atctgcctca gtcagcaagc ttctttcagg atcaactatc cactctcctt 120
cccattccca gccttttgga ggcagaaaaa attccctctt gagttttatt tttcccgtga 180
catcagaaaa cttatgacgt cctactaatc cagaagt 217

<210> 604
<211> 126
<212> DNA
<213> Homo sapiens

<400> 604
actcgggcct ctgccattcc agcctcgggc cctgagatcc ctgaaccccc gacctctgtc 60
tcctgggccc cagctacctc agattctagc cctgggaccc ctgaactcct agatgctatc 120
tcttgg 126

<210> 605
<211> 346
<212> DNA
<213> Homo sapiens

<400> 605
cgacgcgcgt ctgtggagaa gcggcttggt cgggggtggt ctcgtggggt cctgcctgtt 60
tagtcgcttt cagggttctt gagccccttc acgaccgtca ccatggaagt gtcaccattg 120
cagcctgtaa atgaaaatat gcaagtcaac aaaataaaga aaaatgaaga tgctaagaaa 180
agactgtctg ttgaaagaat ctatcaaaag aaaacacaat tggaacatat tttgctccgc 240
ccagacacct acattggttc tgtggaatta gtgacccagc aaatgtgggt ttacgatgaa 300
gatgttggca ttaactatag ggaagtcact tttgttcctg gtttgt 346

<210> 606
<211> 431
<212> DNA
<213> Homo sapiens

<400> 606
tttcttggag cttccacaaa cttaaaacca tgaaacatct attattgcta ctattgtgtg 60
tttttctagt taagtcccaa ggtgtcaacg acaatgagga gggtttcttc agtgcccgtg 120
gtcatcgacc ccttgacaag aagagagaag aggctcccag cctgaggcct gccccaccgc 180
ccatcagtgg aggtggctat cgggctcgtc cagccaaagc agctgccact caaaagaaag 240
tagaaagaaa agcccctgat gctggaggct gtcttcacgc tgacccagac ctgggggtgt 300
tgtgtcctac aggatgtcag ttgcaagagg ctttgctaca acaggaaagg ccaatcagaa 360
atagtgttga tgagttaaat aacaatgtgg aagctgtttc ccagacctcc tcttcttcct 420
ttcagtacct c 431

<210> 607
<211> 367
<212> DNA
<213> Homo sapiens

<400> 607
tgaccttttt gtgtttggaa cacttggttc catgaaaagt atgctttgtg ttttaactgt 60
taaaataatt taaaaattaa ttattttaca taattaaaga agttaaaaac tattaacatt 120
aaataatttc acaatttcaa catgtcaaac ctatgaaggg agataggaaa caatgagaaa 180
cttacttttg ctcctttata cagaattatt aactatattt tactaactaa aaaactctag 240
tattctttac ctaaagtcaa ttggctggta agagggagag atgcaaaatt ctccagctct 300
gaacttggag ctacttcaca ctctactctt aatggaaact tgaactaatg atagatagta 360
ttttttt 367

<210> 608
<211> 267
<212> DNA
<213> Homo sapiens

<400> 608
actatcttac ctatcgaagg cttgagtgac ttgcccaaaa taagttttac gatagaacaa 60
gtggtaggac ttactgtttt gagaatctgg tgctctctgt tgagagagat ctgggagtta 120
aaatcattgt cttaaaagca gagcctgaga caggcatgaa gtgttaaaaa aaaaaaaaaa 180
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaac 240
ccttggccgc caccgggggg gagctcc 267

<210> 609
<211> 554
<212> DNA
<213> Homo sapiens

<400> 609
acttttaaca agtgggtgaa ttatttgata attttgagga agattattct tttaaattca 60
aactagtatg tcaatgccta ccattactct gattatatta aaacagaaaa aggaaataac 120
aacttcgtat accagccact ggtgagagtt aaagacaaga gctgccccccc cacccccaaa 180
tgtcaaaggc aaatgctaaa ttgatactgg agctcgtggt gactttctac ctcactaaca 240
acataaggga tctccatatt atttcaccac tattctagct ttgctgatat attgccaaat 300
gattagacta cagaatagtt caaccagaga atttactcat ttattgatta aacatccaaa 360
tactattgta acatactatg ttaaaattca tcaattcaag tgcccacaca ccactgaatt 420
atcagcacca agcaatatat tagacatatg gcaaaattca acaaatatat tttgatataa 480
ataaataaac gttcacgact ttacttaaaa aatcaatgtt gcggctgggc acggtagctc 540
gcgtctgtaa tccc 554

<210> 610
<211> 510
<212> DNA
<213> Homo sapiens

<400> 610
actaaaaaaa aaaaaatcca taccaaatat ttttacaaat taagattgat gtaggtttta 60
aaaaaggcat ttgtatgttg ttagcttaca tatggggcta ggtaatttca ttgcttaaaa 120
agatgcgcct aggctccctc ttggtggctg gatttctttt tcttcgcccg tggtggccat 180
ggttcttaat agggccaccg gaatcatggt ttctttcttt tttttttttt tgagatggag 240
tctcgccctg tgacccaggc tggagtgcag tggcacgatc tcggctcact gcaacctctg 300
cctcctgggt tcacgccatt ctcctgtctc agcctcctga gtagctggga ctacaggtga 360
ataccaccac gcccggctga tttttgtatt tttagtagat ggggggtttc acataagtgg 420
tcaggctgtt ctcgaactcc tgacctaggg tgatccacct gccttggcct cccaaagtgc 480
taggatacac ggtgtgagcc accacacccg 510

<210> 611
<211> 126
<212> DNA
<213> Homo sapiens

<400> 611
acatttggat agggtgggag gccacaaact tggctccata gacttggccg tctgtccatc 60

tcacttggac cacttcccct tcagcaggag gaccaaactg gagacagtcc tggctcacta 120
tgtcct 126

<210> 612
<211> 335
<212> DNA
<213> Homo sapiens

<400> 612
accttcggaa ctgactagta agtatatcca aaggtttaga aagggctggg ttaagagcta 60
caagaagcat taaccgcaac ggccacaact aatttgtatc cattcttagt aactttaggg 120
aaccagactg aatgcttctc ccaccctttt gactttcctt tattagttcg caacacaaga 180
acatacaaaa gaccgtagcg acaaccattt ctgacgcctt caacttttaa atccaaatta 240
cgtgaaacca caaagcatca gtggtgtctc cccgaggaat ccaagacccc ccggccggtt 300
gccaagccgc cggaatttca gcaggagagg aaggc 335

<210> 613
<211> 256
<212> DNA
<213> Homo sapiens

<400> 613
actgaataat tcagaaattg ttctcatggt atcttctttg gatgctggca gtattatttt 60
attaaaacaa tttaatactg gatgtagaac aattcagctg taaaatgctg agaaaaatct 120
tttatattca ctctattcct cccgtgagat gtaagagtgt tcaactgttt tcaacgtcag 180
ttaaaactac tctggcccat aagcataaat atgcaaggca atacagatca tgtgacagtt 240
tgcattcttg gcttgt 256

<210> 614
<211> 146
<212> DNA
<213> Homo sapiens

<400> 614
acacagaaaa gcggttacca gcacaggact ctggtgttct ctgtcctacc tcttgcactt 60
gggcaaagga cttaaccttc ttatgcctct gttgctttgt ataaaatagg gataattatg 120
gtaataccac agtttgtttt gatgat 146

<210> 615
<211> 164
<212> DNA
<213> Homo sapiens

<400> 615
accataatcc acaactcacc cagtcttttg cagttcctgt gatagcatca tgatgttgaa 60
acagtcccaa attccttctg gcttctgtca gtgccgtgta aagtgatgat gagagaaatt 120
tatttatctt gtatttgtga gcttgtttta tgtcgaaata ttta 164

<210> 616
<211> 474
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(474)
<223> n = A,T,C or G

<400> 616
ttttttttt ttttttttt ggggtttttt ttttttttt ttttttttt ttttttttt 60
ttttttttt tttttttggg ggggcccccc cccttaaaaa ttttttttt taaaaaaaa 120

aaaaaggggg gggggggtaa aaaaaaaaaa aaaacccccc cccctttttt aaaaaaaacc 180
cccccttttt taaaaaaaaa aacccccccc cctataagaa aaaaaaaaaa aaaacctttt 240
ttgggggggg gggggggaaa aaaaaaaaaa aaaaaccccc ttaaaaaaaa accccccccca 300
aaaaaaaagg tggaaaaaac cccccttataa aaaaaaaaaa aggggggggg ggaaaaaaaa 360
aaaaggggg gggccaaaaa aaaaaaaggg gggggaaggg ggggaaaaaa aaaaaanacc 420
cccccccccc cccccccttt ttgnnaaaaa aaacaccccc ccccgggggg gggg 474

<210> 617
<211> 220
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(220)
<223> n = A,T,C or G

<400> 617
acttctggat tagtaggacg tcataagttt tctgatgtca cgggaaaaat aaaactcaaa 60
gaggggaatt nttttctgcc tccaaaaggc tgggaatggg aaggagagtg gatagttgat 120
cctgaaagaa gcttgctgac tgaggcagat gcaggtcaca cggagttcac tgatgaagtc 180
tatcagaacg agagccgcta ccccgggggc gactggaagc 220

<210> 618
<211> 375
<212> DNA
<213> Homo sapiens

<400> 618
acctagatcc tcaatcttct catagcctca ttacccccca aaaaatctgt cattagagct 60
agggaaatct ctccggacac aagggaatct gtggtaacaa agaatgtaga cccatgttgc 120
cagtcttgag tatctcaggt gaggtgccag tccacttctg aaacaatgct ttgcctctta 180
tgcctgtgga gaaactattc cacttcttca tttttttcat ttagaatcat atcatttcag 240
tctttttctt cttacttcaa ttttggttct tgtagcatag tcttttctgg taactactgt 300
aaagttaatg ctgcaaaagc ctatttaatc attctaataa aaaccttaac agatccaaaa 360
cgattctggg atgta 375

<210> 619
<211> 275
<212> DNA
<213> Homo sapiens

<400> 619
accctccaat ggaaaaggat aactccgata tgaggagtcc ccccttccttc tcctaaacag 60
tcttataaaa agcatttcca acttgtaaca gatgttggaa catgcccaac tttgttggtg 120
tatcttactg gataaattct cacatttggc ttccaataaa cttttatcaa tttaaaaaaa 180
aaaaagaata aaaaaaaaaa aaataaaaaa aaaaaaaata aaaaaaaaaa aaaaaggttt 240
gtccaaaaaa aaaaaaaaaa aagctttacc ctggg 275

<210> 620
<211> 373
<212> DNA
<213> Homo sapiens

<400> 620
acatcccaga atcgttttgg atctgttaag gtttttatta gaatgattaa ataggctttt 60
gcagcattaa ctttacagta gttaccagaa aagactatgc tacaagaacc aaaattgaag 120
taagaagaaa aagactgaaa tgatatgatt ctaaatgaaa aaaatgaaga agtggaatag 180
tttctccaca ggcataagag gcaaagcatt gtttcagaag tggactggca cctcacctga 240
gatactcaag actggcaaca tgggtctaca ttctttgtta ccacagattc ccttgtgtcc 300
ggagagattc cctagctcta atgacagatt ttttgggggg taatgaggct atgagaagat 360

tgaggatcta ggt 373

<210> 621
<211> 217
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(217)
<223> n = A,T,C or G

<400> 621
actctctggat tagtaggacg tcataagttt tctgatgtca cgggaaaaat aaaactcaag 60
agggaattnt ttctgcctcc aaaaggctgg gaatgggaag gagagtggat agttgatcct 120
gaaagaagct tgctgactga ggcagatgca ggtcacacgg agttcactga tgaagtctat 180
cagaacgaga gccgctaccc cgggggcgac tggaagc 217

<210> 622
<211> 450
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(450)
<223> n = A,T,C or G

<400> 622
actacaaagc tcagtcccca gatgaggggg ccctggtcac cgcagccagg aactttggtt 60
ttgttttccg ctctcgcacc cccaaaacaa tcaccgtcca tgagatgggc acagccatca 120
cctaccagct gctggccatc ctggacttca acaacatccg caagcggatg tcggtcatag 180
tgcggaatcc agaggggaag atccgactct actgcaaagg ggctgacact atcctactgg 240
acagactgca ccactccact caagagctgc tcaacaccac catggaccac cttaatgagt 300
acaagcnnnn nttnntnttn nttttttttt ttttntccct ttattttgca tactttaatt 360
tcagaacaaa atgaagaaaa taaaataaac cacaatacac aacatccaat cctgctgtca 420
agagtagaga gggaatgggg cttgacaccc 450

<210> 623
<211> 358
<212> DNA
<213> Homo sapiens

<400> 623
gtcgacccac gcgtccgctt aaaaaaaaaa aaaaaaaaag aatattctaa gcactagaac 60
tacataagaa tgtcctaaag cactgtatct aagcacttga aaagaatggg acttttcggt 120
tttagggaga taactattag caaccacaca atatgttatc tttatggatg aataacttct 180
ggtaatgaca cagtgtctta cagctacatc atttataaaa tcatgtgtca gttttcacac 240
agcctgcaca tcgttctgac atgccctttt tttccctgga gatttatcct catgacatac 300
aaggggacaa aaatatttat tgggactgtc tttgaattta gtagaatcac tgtatcat 358

<210> 624
<211> 149
<212> DNA
<213> Homo sapiens

<400> 624
atcaaccgcc acccttactg cctagtcaca cacgtcaggg aggctgccct cagtggagtt 60
ggggttgaga ccccagggtg ggacttcaca gttttgccag caatctctac cttctgactt 120
ctgcctcgca gaagaggtaa gggagaggg 149

<210> 625
<211> 535
<212> DNA
<213> Homo sapiens

<400> 625
agtcaccacg cgtccgagct cgccgccaac catgaaccga tgcccccgca ggtgccggag 60
cccgctgggg caggcagcgc gatccctcta ccagctggtg actgggtcgc tgtccccaga 120
cagcgtggac gatgaatttg aattgtccac cgtgtgtcac cggcctgagg gtctggagca 180
gctgcaggag caaaccaaat tcacgcgcaa ggagttgcag gtcctgtacc ggggcttcaa 240
gaacgaatgt cccagcggaa ttgtcaatga ggagaacttc aagcagattt actcccagtt 300
ctttcctcaa ggagactcca gcacctatgc cacttttctc ttcaatgcct ttgacaccaa 360
ccatgatggc tcggtcagtt ttgaggactt tgtggctggt ttgtccgtga ttcttcgggg 420
aactgtagat gacaggctta attgggcctt caacctgtat gaccttaaca aggacggctg 480
catcaccaag gaggaaatgc ttgacatcat gaagtccatc tatgacatga tgggc 535

<210> 626
<211> 424
<212> DNA
<213> Homo sapiens

<400> 626
gcgtccgccc acgcgtccgg gggccagggc gcgtcggagc cgctgagaaa gcgcagagaa 60
ggcgggcccc gtctgaggtc tggcagtcag agacagccgg gcgcccacgg cccgagcgcc 120
cacggcagca ccatgcccgc actcctggag cgccccaagc tttccaacgc catggccagg 180
gcgctgcacc ggcacattat gatggagcgg gagcgcaagc ggcagggtga gccggggcca 240
tagcaggggg acgcacggcc cagaatggct cctgtacctc aaggctggcc tcaacccacc 300
ggccaaccag cgcgcccgct gccgagcgca gaggagggaa ggaatagccc cgttgtggtg 360
ggatttaagc gtcctgttcc acgctccaga acccttgaaa tgggaaggac cttggagagc 420
acct 424

<210> 627
<211> 435
<212> DNA
<213> Homo sapiens

<400> 627
actgacagca gcactttgag gcatacttaa tctattcacg ggtgttgggg gagcactgtc 60
tgatcggggg ctagaaatac ctaagaatgc atccaccaga cagctgattc cacgcatggc 120
acgaaaaaat atttgaggca gatgtttaag gcagggatac tgattcaatt cttgcggcat 180
tccgctcaca ttcaagaact gttcctgaaa tttgggagta gggcttataa tagctgggtt 240
actcaaatcc acaggattac ttaacatgtg taaaaagcga aaccatgtct gtgcaacaca 300
ctcattatcc atttctggag ggatcagact ggcatcttca tcgggaactt taaatgcagg 360
aaatgaagga ccatatgtaa agcgtagcaa tctggaagtg agtgcacaaa tgaccttgct 420
ccactgctcc accac 435

<210> 628
<211> 530
<212> DNA
<213> Homo sapiens

<400> 628
tctctgtgtc gtgtcctggg ggaccagcag cactgtgacg aggctaaggc cgtggatatc 60
ccccacatgg acatcgaggc gctgaaaaaa ctcaacaaga ataaaaaact ggtcaagaag 120
ctgggtgagt ccggccgctg tggttttgca tgtgagatgt gtggtggggg cggtagaaag 180
gctttctgc cattttcgat ttttaaatga tgaggggcct agaatagcaa aggatcggcg 240
gtggttgcct agcttgcctg agtgctgttt tagctttggg gtggtttgat gtttgtattg 300
ctatgaggat tccagttgat gagggaggcc aggcattgta agttgaccag ccaggtgctg 360
gtgaactatg atttggaaat ctttacgctg cgttgtttag gcagtggcat tagactgctt 420
ttacaggtag gaagcagaca ttcccagttg tcacgtgtcc agggtccaca gctaagaaat 480
aggcagaatt cgagcccagg cagtcttgac cagagcattc gttgtacagc 530

<210> 629
<211> 323
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(323)
<223> n = A,T,C or G

<400> 629
actcctcang gtcttttcag agatgccctc gataaatttc aagacagctt tggcctggtc 60
tagagtctta cagcagtcca ccaacacacc cacaggctgg gtgtcctgca agctctcctt 120
caactccctc agctccagat cagaaggacc aagactctca tccggagtct ggggaggcag 180
ggcctccatg gtggcaacgt gggaggagat gggcaggatg ttgagctggt catcaatgac 240
gagacacttc ttacaagagg ccagagacag aataaacctt tcattaaatc ttcccaccac 300
atcctgatgg gcctcagttc tgt 323

<210> 630
<211> 286
<212> DNA
<213> Homo sapiens

<400> 630
ccgaggtaca aattcccaag cctgtttatt aaccaatttt acccaagacc aggaactcct 60
gctgcaaaaa tggaacaagt tccagcacaa gtgattggtg aaagacaaca agtgttagta 120
acagaagaat cttttgattc caagttttat gttgcacaca atcaattcta tgagcaggtt 180
ttagtgccaa agaaccctgc gttcatgggg aagatggttg aagtggacat ctatgaatca 240
ggcaaacatt ttatgaaagg gcagccagta tctgatgcca aagtgt 286

<210> 631
<211> 530
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(530)
<223> n = A,T,C or G

<400> 631
cgcggtggcg gccgaggtac cttaagacaa aagttatgaa tgacacaaga attcatggct 60
aagcaaaaat aaaacctcca gtgtgaaaag agaggaagca gaagcaacaa ggtttcccat 120
gaaggtttgt agtttaagac attcccggac tgagttcttg cccccttgaaa agaggcaaga 180
agatggaaac tcattgtgca ccctatgtgc agcaggtttt ctggacacca cagcttcatg 240
aaactctgtg tctgtgaaca tcccaagagg tgaaatcagg aatcataaat aagaccttgt 300
gccttcaagg agatgattgt catttcctca agtttttgag gcagaggctt tgaggattct 360
gcactctctt ttcttgtaga catgcaatac nggaagtatg gattcaaaat tgctttctgt 420
tccatagaaa ggaataggag ttatgtttag ggctcttttt catgttaaaa tccctatgtc 480
ctcctaagaa aaagcttagt tcaaatctcc atgaaaacaa tatttatgct 530

<210> 632
<211> 468
<212> DNA
<213> Homo sapiens

<400> 632
acttattctt cagggttact gagtcggcac ctatgacagc taagagagct ttcttaaaga 60
ctgcctcagt gtcttcttgg cttttggcac cttcactcca ctctgcccag gaaatccaca 120
atggcagaca aacctggggt ttcaggtgca caaaggcttc ttcaaaaagc atggctatgt 180

cagggctctt tgactcgatc agcacctgca gcttcagctg ccacattgtc ccagagtctc 240
taaacaattc agttccagct actgccactt ccagagcttc cctcaggaag ttataacaca 300
gcaacgaaac actcaactgc ttgtattggc attctgacag aagcttcagt tcatgtgcct 360
tcctgaatac agtcatggtt ctttccaacc tcttccctct aaggaaccca ctatttgact 420
tcttagtaaa tctttccaag caaaaagtga tgtaacactt tcacatgg 468

<210> 633
<211> 357
<212> DNA
<213> Homo sapiens

<400> 633
cgcacggtgg agccgccagt tgagaaggac tctgatccgg ctcagctttc caatcagctg 60
cggaaggagc cacgctttcg gggggttgcaa gatggcggcc accagtggaa ctgatgagcc 120
ggtttccggg gagttggtgt ctgtggcaca tgcgctttct ctcccagcag agtcgtatgg 180
caacgatcct gacattgaga tggcttgggc catgagagca atgcagcatg ctgaagtcta 240
ttacaagctg atttcatcag ttgacccaca gttcctgaaa ctcaccaaag tagatgacca 300
aatttactct gagttccgga aaaattttga gacccttagg atagatgtgt tggaccc 357

<210> 634
<211> 324
<212> DNA
<213> Homo sapiens

<400> 634
actttagtag atgagggcaa agctttcacc gtaatgaaaa ggcaaatggg aggtctctga 60
taagttggaa tcatcatagc aaaaaaagag atacctacca gaaaatttgc attaatatct 120
ataacctcat ttgtaaaaaa aatcattaag tttataaact attttaaaaa taaaacgaat 180
acatatgtaa tatgaatcat atgccaaatt atattctata gtcataagtg ctattaataa 240
atacatttga ttcatgctac aagagaaaga attgagacaa tttcacattt cagaattcct 300
gagtcttatc agagaaaaac aagt 324

<210> 635
<211> 520
<212> DNA
<213> Homo sapiens

<400> 635
cttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 60
tttttttttt tttttttttt tttttttttt ttttttttaa aggccggggg tatccttttt 120
ttgcccggga aaagaaaaaa atcccaaaaa attttccggg ggggttccaa aaaaaaatta 180
aaaaaatttt ttttttttgg gggggggccc ccaggaaccc gggggaaaac cgggaatggc 240
ccctcccagg gaaccggggg ggaaccccaa ccaaattttt cccgggggac ccctttggga 300
aaaaaaggga aaagggggggc cccccggaaa aaaacccccc cccaaccctg ggggcccagg 360
cccccccccgg ggccccccccg gaaattccgg cccggccccg gggggccccc ccctttttccc 420
taaagggggg cttttaaaac cgggggggaaa aaagggccaa accggttccc ggggaaaaat 480
tgtttccccc ccaaaatccc ccccaaaaaa caacccggaa 520

<210> 636
<211> 560
<212> DNA
<213> Homo sapiens

<400> 636
cgtgcgcggc atgggcagtc tggacgggca gaccgatgaa gtgcaacctt cacatgagtg 60
ggaatgttat cacctcaaac caccccatcc tgctgcggct gagtgacagc ccatcaatga 120
aaaaggagag cgagctgcct cgcagggtga actctgcctc ctcctccaac ccccctgccg 180
aagtggaccc tgacaccatc ctgaaggcac tcttcaagtc ctcagggggcc tctgtgacca 240
cgcagcccac agaattcaaa atcaagcttt gagcagggga gtgaggcagc cagaagtggg 300
ggcagaggag ggtggctctg tttccccaag gcaaagctta tgaccaatgg gccatcggac 360
tggagacccc tgattgtggg aagggttgcc agggataaag agcttcctca ctggatggga 420

cccgcctttc tgtgttgtgt tctgccctgt gctcttctct ctacgttaac gtttcctgta 480
gtatgtttct tcatctcatc gccaaggtag gcttgtgttt ttcagtgtgt gcctccccga 540
gcctcagccc caagctgatt 560

<210> 637
<211> 516
<212> DNA
<213> Homo sapiens

<400> 637
acataaagtg ctagaaaatc atgttccttg tcctgagtaa gagttaatca gagtaaatgc 60
atttctggag ttgtttctgt gatgtaaatt atgatcatta tttaagaagt caaatcctga 120
tcttgaagtg ctttttatac agctctctaa taattacaaa tatccgaaag tcatttcttg 180
gaacacaagt ggagtatgcc aaattttata tgaatttttc agattatcta agcttccagg 240
ttttataatt agaagataat gagagaatta atggggttta tatttacatt atctctcaac 300
tatgtagccc atattactca ccctatgagt gaatctggaa ttgcttttca tgtgaaatca 360
ttgtggtcta tgagtttaca atactgcaaa ctgtgttatt ttatctaatc cattgcttaa 420
tgagtgtgtt tttccatgaa tgaatatacc gtggttcata tgttagcatg gcagcatttt 480
cagatagctt tttgtttgtt gggaagttgg ggtttt 516

<210> 638
<211> 376
<212> DNA
<213> Homo sapiens

<400> 638
actatgtgca aaaagcccag accaaagaac aggcagattt tgcagtagaa gcattggcaa 60
aagctaccta tgagcggctc tttcgctggc tcgttcatcg catcaataaa gctctggata 120
ggaccaaacg tcagggagca tctttcattg gaatcctgga tattgctgga tttgaaattt 180
ttgagctgaa ctcctttgaa caactttgca tcaactacac caatgagaag ctgcagcagc 240
tgttcaacca caccatgttt atcctagaac aagaggaata ccagcgcgaa agcatcgagt 300
ggaacttcat cgatttcggg ctggatctgc agccatgcat cgacctaata gagagacctg 360
ggaacccttc tggtgt 376

<210> 639
<211> 440
<212> DNA
<213> Homo sapiens

<400> 639
gcagccggca gctttgcagc ggtgtgttct aggtcagtgg cttcaaagac tccagttgga 60
ttcattggac tgggcaacat ggggaatcca atggcaaaaa atctcatgaa acatggctat 120
ccacttatta tttatgatgt gttccctgat gcctgcaaag agtttcaaga tgcaggtgaa 180
caggtagtat cttccccagc agatgttgct gaaaaagctg acagaattat tacaatgctg 240
cccaccagta tcaatgcaat agaagcttat tccggagcaa atgggattct aaaaaaagtg 300
aagaagggct cattattaat agattccagc actattgatc ctgcagtttc aaaagaattg 360
gccaaagaag ttgagaaaat gggagcagtt ttcatggatg cccctgtttc tggtggtgta 420
ggagctgcac gatctgggaa 440

<210> 640
<211> 517
<212> DNA
<213> Homo sapiens

<400> 640
acagagtcta atccctttct atgtagccac cagcatgaca gcacccagca actttctgca 60
caggtgctcg tggttggtgc cttcgccaaa agtctatgca catcatgctg tttctactct 120
tgggatttcc aaaaggacca caggatattg gtcccattct attcagtttc tttttgcaca 180
gtatatgcct gaatggctct gggtgtggag agcaaatatt ctcaaccgtt cactacgtaa 240
ggaagcctta tcctgcacag cctgagtctg gatggccact tgagaagttt tgccaactcc 300
tgggaacctc gatattctga catttggaaa aacacattta atttatctcc tgtgtttcat 360

tgctgattat tcagcatact gttgattcgt catttgcaaa acacacataa taccgtcaga 420
gtgctgtgaa aaaccttaag gtgtgtggat ggcacaagat caataatgcc tgaggctgat 480
tgacgacatc tacatttcag tgctttttcc ctaagct 517

<210> 641
<211> 513
<212> DNA
<213> Homo sapiens

<400> 641
actggaacag ggataagttc ttggataagg tgccaacata cctataaaag ctgatttttg 60
agtaaattat tgattctaac atatgtaatg gatttggtgt gataattttc tgatctttaa 120
ctataagtga ctttttattc tccaccagaa aagataaatg actgagaatg taagtctgcg 180
ctctgattaa cacaatggag aaacggaaaa actatctctg ttaaaaactg attcctgtca 240
ttcttctgat atcaaataag aggaaggaaa ataaactttt tgtgtgtaga tagaaaaaca 300
tacctgaggc caggtgcagt ggatcacgcc tgtaatccca gcactttggg aggccaaggc 360
gggcgatcag ctgaggtcag gagttcgaga ccagcctggc caacatggtg aaatcacgtc 420
tctactaaaa atacaaaaat tatctgggtg tagtggtgcg tgcctgtaat cccagctact 480
cgggaggctg aggcaggaag atcactttaa ttc 513

<210> 642
<211> 518
<212> DNA
<213> Homo sapiens

<400> 642
gactaaagaa gaataaaaat ttccactgat gattaaaaaa aatacttcca taatatcagc 60
agctaataat tgcaaaaaat ttaagaaacc attaaaagtt agcactaaat aatctttaaa 120
aatcacaaaa atgtgcactt caaatattat gccagaaatt ttgtccaaat attcatgttc 180
agtaaacaga gacacatagt tttcttgatt tgaaactgtt ctgaggactt gagaaactag 240
agaaaacaag aaaatagcag ccccacaaat ttaaaagcta tcatctctac cattagcata 300
taaccatcca aaaatctgtg gaatgtttag atttactcat gaatgatgct cattcgtaga 360
aatattttga acaccagtag tgctatcaag gcccagtaat gttccaagat aagattgttc 420
tctaggatct agcatttgtt caggtcgaac tgggtgaact atatttgcag gttgaggagt 480
aagaatatat ttttccagaa aagctaaatc cgctgctc 518

<210> 643
<211> 276
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(276)
<223> n = A,T,C or G

<400> 643
acttcagaga tgaatgcatt cttggatgac ccagaatttg ctgatattat gctgagagca 60
gagcaagcaa tagaagttgg aatttttcca gaaagaatct ctcaaggttc aagtggaagt 120
tactttgtga aggatcctaa aaggaaaaat atggtgtgtt taaacccaaa tcagaagagc 180
cttatggtca actcaatcca aaatggacca aatatgtcca taaggtctgc tgcccttgct 240
gctntggccg aggctgcctg attcctaatc aggggt 276

<210> 644
<211> 242
<212> DNA
<213> Homo sapiens

<400> 644
gcggccgccc gggcaggtac tttttttttt tttttttttt tttaaaaaaa aaaaaaggga 60
aaaaaaaatt ttttttaggg gggttttttt ttttaaattg ggggggggtc cttttttttaa 120

aaaaaaaggg ggccaccctc aaaaaaattt ttttgtttta cccccccttt ttcaaagggg 180
catttttaaa aaattggggg gaaaaagggt tttttttttt tttttaaaaa aattgttttc 240
cc 242

<210> 645
<211> 438
<212> DNA
<213> Homo sapiens

<400> 645
acttgaggga agtagcatct gggtcttggt aatccagctc agcagagctc tcttccccat 60
tctcaaggtc ctctggctcg ctctcctcag agggcaggca gaaggactgg taattgttgg 120
attcccacca ggccatcttt ttcttatgtt cagcctcttc cttttgcctc ttcttctcct 180
ctatgagtct ccttctcttg gcagctgctt cttgtctttt cttctgtctg tcctccagct 240
cttctggact cagaacccgc ttccttttgg tagatccctc cacaaggcct gggatgagaa 300
cactgccttt atttcggagt gatcggccct cttgactagc tttctccaaa agggttttct 360
gaaggtttac cagttgttca aatgattttc tgtcttcctt actgggctct ttagaataat 420
ctttaccttc aaataagt 438

<210> 646
<211> 500
<212> DNA
<213> Homo sapiens

<400> 646
acaatacgtt atatactgca ggaaaataaa ttgtaggtct agtcatcagc ttaatcaggg 60
atccttttcc cattagcttt tattaataaa aaatcacaat taggtcataa ataaacaggc 120
aaattattaa tacatgtatt gaggcttacg atgaaaactt gtcaaaatta gtttgatata 180
cagcaaagtt atacaacaca ctaaaaccaa ctgttcaata gttttttgcct tgtgtgaact 240
gcccatagtg aaaaaggaac aaatttttag tgatgaaaga tacaataaac tatattttgg 300
aacttttcaa gaggaagaag gaaaaaagat ttcaacaaaa ttaagggcaa atacagatcc 360
taacaaaggc atcctgacat cagggaggcc atgtgcttgc tatgtgtgaa agttgatccc 420
ccaacaacat acagaaaaca aaagctgcac tggctttgta agtatgtcta tagtctaagt 480
ttcccttatg gatactaagc 500

<210> 647
<211> 193
<212> DNA
<213> Homo sapiens

<400> 647
acacctacac ggatgcgaac ggcgataaag cagcatcacc cagcgagttg acttgtcctc 60
caagttggga attgggaaga tgatgcatgg tcttatgaca taaatcgagt ggtggatgag 120
aaaggctggg aatatggaat caccattcct cctgatcata agcccaaatc ctgggttgca 180
gcagagaaaa tgt 193

<210> 648
<211> 361
<212> DNA
<213> Homo sapiens

<400> 648
acatgagata atcaatgctt ccttacaaaa tgggcttatg ttagaagact tttgcccagc 60
tgcaggctat tgtaagtgtt ctgagcacat atgagataac ctgggccaag ctatgatgtt 120
cgatacgtta ggtgtattaa atgcactttt gactgccatc tcagtggatg acagccttct 180
cactgacagc agagatcttc ctcactgtgc cagtgggcag gagaaagagc atgctgcgac 240
tggccagtga catgcagagg atccagattg cacaaccgga tccagaggcc ttgggaagca 300
ttagggagct ctgcagctgt ctcactcaaa tctgtagcag catatggacc cacaaatgga 360
g 361

<210> 649

<211> 379
<212> DNA
<213> Homo sapiens

<400> 649
tatagggcga attggagctc cccgcggtgg cggccgaggt actaaaaaaa aaaaaatcca 60
taccaaatat ttttacaaat taagattgat gtaggtttta aaaaaggcat ttgtatgttg 120
ttagcttaca tatggggcta ggtaatttca ttgcttaaaa agatgcgcct aggctccctc 180
ttggtggctg gatttctttt tcttcgcccg tggtggccat ggttcttaat agggccaccg 240
gaatcatggt ttctttcttt tttttttttt tgagatggag tctcgccctg tgacccaggc 300
tggagtgcag tggcacgatc tcggctcact gcaacctctg cctcctgggt tcacgccatt 360
ctcctgtctc agcctcctg 379

<210> 650
<211> 547
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(547)
<223> n = A,T,C or G

<400> 650
acttttattt ctaaaaacat ctgccaaata aaaccaacca aaactcatta ttttcaccat 60
taccaagagc tagctctatt aaatttatat caacaagtta atctgtctct atatagggaa 120
ggtttccgca aactaaaatc taaacctaac ttttgtagac agggattatg gtaggaattt 180
ggtattacaa ctaaaccagc cagctaagga gtgaacctaa gaaaaaatat attacatatc 240
cttattgaca gaatcacagt tagatgctgc actaaaaccc taaatggtat atctctcagc 300
ccacgtaaaa tttcagctca agaagttcac aaatagaaac agataataat gttcaaatat 360
tacttaagag tgattacact taagtcaaac atgggaaaga atagcaaata caaaccccag 420
ggaaaaatga gattatggtg atttccaaat gcagtttcta tagattaggc agaggtaatc 480
attttaaagt gattcattca gctacccaga ctctggaaaa caggtcgnng atgaggcaaa 540
gctctta 547

<210> 651
<211> 89
<212> DNA
<213> Homo sapiens

<400> 651
actttttttt tttttttttt ttttttttaa gaggaaaacc cggtaatgat gtcggggttg 60
agggatagga ggagaatggg ggataggtg 89

<210> 652
<211> 553
<212> DNA
<213> Homo sapiens

<400> 652
acctgtgtta tgcctgtgct ccagcagctc attgcctccc gcatgaactc ttctaggttt 60
ggaaattcca ctttaaatat gaggaaatgt ctgctcatgt agatgatatg acttgcccta 120
gaacacaaat ctagaaaatg cagcaaccag aattttaccc aagtttgttg aacaccgaaa 180
tctagcctct tcccatgact ggccccctct ctctgagcag taatagtgag cattgctggc 240
caccagggcc acccatcctt actagggctc ctggtcccta ctgcacaaaa ttctgttatt 300
tgggattcag acctctggaa aaacaaaaat ggagtttcta gagttcaatt gtgccaaaag 360
acaattgtca tcacatctcc tcttggaaaa gggaacatgt caaggttgtt tgtgttcagg 420
cagcaggagt tcccctaact cgtgggaaaa gcaactgcac ctcactcctg tgactgccta 480
ccaaaaaatc ctggcaaatg tagagagcca gtgaacagaa accaacccaa cagttaccaa 540
gggggaaaca aag 553

<210> 653
<211> 557
<212> DNA
<213> Homo sapiens

<400> 653
cggcaagcgc gcagtgtcga ctccccggtc tatgccaggc gcatctcagc taatccaaaa 60
gtaaatgaga aacttagaaa aagattgcca attccaaatc aacatattta gagaaaattg 120
gaaaaggaga agcttactac agctttattt gaggactttt taaagaacgc tgggttctat 180
ctgtgagctg caaatcttgg agcaaaaacc agagacattg ccagagcaaa caagaacaga 240
aatacaaatg gagaactggt caaaagacat aacccacagt tatcttgaac aagaaactac 300
ggggataaat aaaagtacct cggccgcccg ggcaggtact ttaccagcag accacagttt 360
tgccctggct agaccaaccc tcagaacaaa atcatcattc cttgtattta tatttgtatc 420
tgagatagta aacaagatgg ctggccaggt caacatggca ccttaactta ttttttttaat 480
aggtaaaact tcttcaaaag tagcttgctt tgtataagaa ctaagctatc agtttagata 540
tagctatcct tggagct 557

<210> 654
<211> 218
<212> DNA
<213> Homo sapiens

<400> 654
acgataattg tgttgatttg tctgttgctt tttggatgtc tccaagatcc aggaaatgct 60
catgagcatg attctttgag acagtgggta ttttattctc ttttggaaca gttaagtgtt 120
ttcttttctc ttctgacctg taagtcttta tttcttcttc tccctttgca gttctccatt 180
cttcttgcct actggctaca ccagctgata gctcgggt 218

<210> 655
<211> 208
<212> DNA
<213> Homo sapiens

<400> 655
acaatgaagt aaaaccatcc aaatctgaca gctagtgttt tcttatttag ccggagtgag 60
aagcaagaag gccctggaca cagcaatatc tctgggcttt cacaggtgtg tagatgaatg 120
aaaaaatgga ttgataaatg tataaaaaaa aaaaaaaaaa aaaaaaaaaa ggaaaaaaaa 180
aaaaaaaaaa aaaaaaaaaa aggcttgt 208

<210> 656
<211> 246
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(246)
<223> n = A,T,C or G

<400> 656
nttttttttt tttttttttt ttttttttga gtgacagaag ctgcttttta tgtaggagca 60
cacagaaaat ccccaggcag ccaggagctt tcagggccgg aggaggtttg cccaccgcat 120
acgcagtaat ggggaacaga aaccgggcag gctgcatttg gtgatctcag gagaaaggct 180
tcctcagtgt gtcgaaagaa accacacgcg gcctggggca gaagacctgc ccttagggtg 240
gccgag 246

<210> 657
<211> 563
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(563)
<223> n = A,T,C or G

<400> 657
acttaaaatt tacagctgac tcaaattgcc tcacagaatt atttgatgta gaaggctagt 60
tgtcttactt cagatcagca ggacagttgg gctctcagac tcatgaccac tgagtttgct 120
tgtgttgaaa ctgtggtttc atccaacata tgctattgga catgattatt attcaattca 180
aatggattac agacttcttg aggacaggac aaacttatct ctcatggtgt tttttagaa 240
tacttttata accaaggaag aaaccatgcc agctgttacc attcaacttc ttaagcagag 300
attaagcttt ttcatatctg ttcttatcct ggacatcagt agtttttaat tgcccagcat 360
ccgttccatc ttgtaacaac tccctgatgt ttcttaaaac cacctcttcc tattttcagt 420
ctgtggtttg gacagtctga cccaaccttg agctttgtgg gtgaacatgt aattcagacc 480
tcatcaatca gcaaatccat ctgaactgtg gaggagaagc tctctttact gagggtgctt 540
tagctntgta ggatgaaaac ctc 563

<210> 658
<211> 569
<212> DNA
<213> Homo sapiens

<400> 658
ccaaatactg cctagtgtat tcaacaaaag gactgtggtc atgtaacagg taaccacaat 60
tttcaggttt cttaaaaaca gctgtaacta actcaggatt tttatcttga gatttccctg 120
aataatatat ttatcttaag agccttcaag tttcaaatta atattggaac atctggaatt 180
gcaacaactt ttgtctttta cataaactta cgtcatttaa aaaatgtctt caaaatctac 240
ctttctcaaa ttctttttgc ctctatttat ttttgcattt caccaacagt gataaaatag 300
ttaaatgaaa caaagcaaag tatcaacagt cccttaaatg agaatcctta tctttgatct 360
ttattttctg tgttaggtgt tagggtcctg gtgcagctca taatgctaat tcttcattgg 420
aagccactcc cttcacctca cctcacctag tcactattgt ctttggtcat tgtttgatcc 480
tgagtggttg attgatatag ctttgaatct tttttagtac aagtttgaaa acactgttct 540
ggccctaaag gctggctatg acctttact 569

<210> 659
<211> 583
<212> DNA
<213> Homo sapiens

<400> 659
gactaaagaa gaataaaaat ttccactgat gattaaaaaa atacttccat aatatcagca 60
gctaataatt gcaaaaaatt taagaaacca ttaaaagtta gcactaaata atctttaaaa 120
atcacaaaaa tgtgcacttc aaatattatg ccagaaattt tgtccaaata ttcatgttca 180
gtaaacagag acacatagtt ttcttgattt gaaactgttc tgaggacttg agaaactaga 240
gaaaacaaga aaatagcagc cccacaaatt taaaagctat catctctacc attagcatat 300
aaccatccaa aaatctgtgg aatgtttaga tttactcatg aatgatgctc attcgtagaa 360
atattttgaa caccagtagt gctatcaagg cccagtaatg ttccaagata agattgttct 420
ctaggatcta gcatttgttc aggtcgaact gggtgaacta tatttgcagg ttgaggagta 480
agagtatatt tttccagaaa agctaaatcc gctgctcgtg gataatcagt tgactgtggc 540
tgtggtgaca gaatctcatg agaagatggt gggagtgtgg tag 583

<210> 660
<211> 412
<212> DNA
<213> Homo sapiens

<400> 660
accttcagag aaaaccaaac agcctaaaga atgtttttg atacaaccaa aggaaagaaa 60
agagaatacc accaagacca ggaaaagacg aaagaagaaa attactgatg ttcttgcaaa 120
atcagaacca aaaccagggt tacctgaaga cctacagaag ctgatgaagg actattatag 180
cagcagacgc ttggtgattg aattagaaga actgaacctg ccagactcct gtttcctcaa 240

ggccaatgat ttgactcaca gtctttcctc atacctaaaa gaaatttgtg ctaagtgggt 300
aaaacttacg aagaaccaca gtgagaagaa atcggtcctg atgctgatca tctgcagctc 360
ggccgtccga gccctggagc tcattaggtt cgatgacagc attcagagga ga 412

<210> 661
<211> 439
<212> DNA
<213> Homo sapiens

<400> 661
accttctgcc tgttttcgtt atactgaatg accagttcaa aaccaaagtt ttccaataac 60
gctttggcag catttcctct ggcccctgaa gctattcggg gtggtgggat ggatggttcc 120
aaggattttt gcttctttgt gtctttgcct tctttgagtc cttcaccttc acttataaat 180
tcctgctttg gtttttctgg cttttcagaa atatcttctg cctccttata agatggcaca 240
tccttcatga tttggcagtc tgcactcact atgttacttt gctcttgttt caataatttg 300
cttgcctgct gttgctgctg ctgctgtgga ggtcgggggc tgctgctgtt gattttgagg 360
ctgcagctgg ggctgtgtgg cttggtattg gtgggcttgt tgctgtagta tctggagttg 420
agtttgacca acgtgatgt 439

<210> 662
<211> 396
<212> DNA
<213> Homo sapiens

<400> 662
acaagctttt tttttttttt tttttttttt catgttaaga agtttatttt atggaccaca 60
gcagaaattt cagccaagtt ttttagagga aatcacctgg gtgtggcaaa cagacagggc 120
ttccattatt ctacctttag gatttcaata gtataaaacc ggttgttttt gatggggatt 180
acagcagcat tatcagggca gatgcctaat tcccgaataa catcaacgac ggctgcaatt 240
tgcacagttc tgttggtgta aaagtcccag tagaaggttt ttggattgtc gtcacatagg 300
caggcagtat acttatagtt aaatgcacct tgtagaggga tgctgctaat gaggtaagtt 360
ttaaccacca tgcattcttt caattctgtt tgaact 396

<210> 663
<211> 426
<212> DNA
<213> Homo sapiens

<400> 663
accatctgat cttttcgcca tgtgcataca tcatctttct tgcccccact ccccttttcta 60
agaacactta attaacaggt tattttgaga tattattgct tcattgtgac taccggtggt 120
gttatttttc aaaatactgt agataagtgc caagttttgc aatttagaac ttccccttgg 180
attttcatta aactttatat ttgcttcctt gatgctttaa tcataacgat ttcctattaa 240
gcataaagtg acactttcaa tgggagtttg gctttataac aaatttgtga tggaatcatt 300
agacactgct gctcaagaac ccatttttac accccaaagg gcatttgatg atttataaac 360
atcatcaaga ttatacattc tattttgact attaaaaaca taaaactgca gtaagatttt 420
acatgt 426

<210> 664
<211> 376
<212> DNA
<213> Homo sapiens

<400> 664
actatgtgca aaaagcccag accaaagaac aggcagattt tgcagtagaa gcattggcaa 60
aagctaccta tgagcggctc tttcgctggc tcgttcatcg catcaataaa gctctggata 120
ggaccaaacg tcagggagca tctttcattg gaatcctgga tattgctgga tttgaaattt 180
ttgagctgaa ctcctttgaa caactttgca tcaactacac caatgagaag ctgcagcagc 240
tgttcaacca caccatgttt atcctagaac aagaggaata ccagcgcgaa agcatcgagt 300
ggaacttcat cgatttcggg ctggatctgc agccatgcat cgacctaata gagagacctg 360
ggaacccttc tggtgt 376

<210> 665
<211> 348
<212> DNA
<213> Homo sapiens

<400> 665
acttttaggt gcaggtggtt tacgagtggc ccaattggtt cggatttgac gaccacccaa 60
ccactgaccg cccatatgca caatcgcatt ttctgcatcc agttttgtta taaaaagata 120
caaaaccata gcctttggat ttccagttg ccatgtcttt aactacccgg gcatccgata 180
ttttaccaaa gggggcaaat gctgatttga tatcttctgt tgtaatttct ggactcaaat 240
ccccaacaaa cacatggaag tgattggaag tatcttttt ctggctactt ggtgttggtt 300
gcccagttta ctttgacctc ctttcccaaa atttttcttc cattcata 348

<210> 666
<211> 265
<212> DNA
<213> Homo sapiens

<400> 666
actggcctcc cgggagccac tgtgaccagg cctttgagct cttgtcatct gtggagagaa 60
tcatgcaaat tttaaaagtt cttccaagag acttccatgt cctggttatt aacaaaaaag 120
gaaaaatgta ataattgata tgattttgta aaagtatttt tcttgaaata atctaaagtt 180
taaaacatta tattaaaaaa aaagttgtgt ggtgggaatg tgaaagcaga gaaataactt 240
gtaaatggat aattttgttc tctgt 265

<210> 667
<211> 405
<212> DNA
<213> Homo sapiens

<400> 667
acctgtgtta tgcctgtgct ccagcagctc attgcctccc gcatgaactc ttctaggttt 60
ggaaattcca ctttaaatat gaggaaatgt ctgctcatgt agatgatatg acttgcccta 120
gaacacaaat ctagaaaatg cagcaaccag aattttaccc aagtttgttg aacaccgaaa 180
tctagcctct tcccatgact ggccccctct ctctgagcag taatagtgag cattgctggc 240
caccagggcc acccatcctt actagggctc ctggtcccta ctgcacaaaa ttctgttatt 300
tgggattcag acctctggaa aaacaaaaat ggagtttcta gagttcaatt gtgccaaaag 360
acaattgtca tcacatctcc tcttggagaa aggaacatgt caagg 405

<210> 668
<211> 285
<212> DNA
<213> Homo sapiens

<400> 668
attttattct ttgtgagtta attagaataa agtcattttc ttccaaaaaa aaaaaaaaaa 60
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120
gctggaacct ggagccgcaa ccaccctaag cccaaaattc ggcagatttc catcacacgg 180
gcggccggtg gggcaggcat ttaaagggcc caatgggccc tatagggagt cgaattacaa 240
tgaacgggcc gccgtttaac aacgggggga cggggaaaac cgggg 285

<210> 669
<211> 266
<212> DNA
<213> Homo sapiens

<400> 669
cgacccacgc gtccgttttt tttttataaa tacacaattt tatttgctat ttccagggga 60
aacttaggca ttaaactgta agctgataaa atacgatacc taaaaaagta taaaagtata 120
aatatcccct tagaataaat tttagtgaat taagtcttaa tatctttaaa ttaaaaaaac 180

cacaagccta tctactatgt caaggtcaaa aatcaaacaa cgctaagcgg ccagcagctc 240
cccagagagg atgcccagga gcccca 266

<210> 670
<211> 290
<212> DNA
<213> Homo sapiens

<400> 670
acaagaatgc cgtaagggca gactctctcc cactcccact gatgtctatc gatagcggaa 60
ggcatcaatc atcgtcatat actcatagca gaatgccata caacaagtaa aaggactgga 120
ctgaaagtcc aggagtaaat cttgaaaaca tgacacatgt tctagaataa gacattaata 180
agaagacata gaatacagct gcacctgtat aaaattttaa aacatgccaa atgagacagt 240
caaaggatca gtggttgtca gagttcaacg ggagggtgca gggtaaacag 290

<210> 671
<211> 192
<212> DNA
<213> Homo sapiens

<400> 671
acattttctc tgctgcaacc caggatttgg gcttatgatc aggaggaatg gtgattccat 60
attcccagcc tttctcatcc accactcgat ttatgtcata agaccatgca tcatcttccc 120
attcccaacc tggaggacaa gtcaactcgc tgggtgatgc tgctttatcg ccgttcgcat 180
ccgtgtaggt gt 192

<210> 672
<211> 394
<212> DNA
<213> Homo sapiens

<400> 672
acgacatgtt tgtgaatttc ccagaccagc cggtggtgtg gagagaaatc agcattatta 60
catgagcatt aaggaacgat tcacaggaca aacaaaccca atttttaaga agtttatttg 120
aaactcttcc tggtcgagtc cagtgtgaaa tgttactaaa ggtcacggaa caatgcttca 180
acacgttaga acgatcagaa atgttgcttc tacttttgag gcgcttccct gaaacggtgg 240
tgcagcatgg ggttggcctt ggggaggcac tattagaggc tgaaactatt gaagaacaag 300
aatctccagt gaactgcttt agaaaattat ttgtttgtga tgtccttcct ctaataatta 360
acaaccatga tgttcgatta cctgccaatt tatt 394

<210> 673
<211> 300
<212> DNA
<213> Homo sapiens

<400> 673
actcttaacc ccattagaac tgtttttcct tttgtatctg caatatggga tggtattgtt 60
ttcatgagct tctagaaatt tcacttgcaa gtttattttt gcttcctgtg ttactgccat 120
tcctatttac agcatatttg agtgaatgat tatattttta aaaagttaca tggggctttt 180
ttggttgtcc taaacttaca aacattccac tcattctgtt tgtaactgtg attataattt 240
ttgtgataat ttctggcctg attgaaggaa atttgagagg tctgcattta tatattttaa 300

<210> 674
<211> 478
<212> DNA
<213> Homo sapiens

<400> 674
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ggaacgcttc caagtcagtc aagctggaag attaaactct agagttttgt ccccccaaaa 120

ctgccacaat tgctttgatt attccattta tgctggagat tacaaatttt ttttgtgaaa 180
aaatcagatc ttggtgagga cctcgagcgg taagatataa ataactccca taagcttagc 240
gttccagtga tggaacacta ggcataaatg gtttattcag ttgtgcaaat gaaagccatc 300
tgacagttgg ctcacattga acacctgtgg agattaagga cgaggacaac tatattgatg 360
ggcttggatg aactggggca gggcagctca tatttcggga gccaggagaa cgagtgagtg 420
ctaaaacctc ctgctttctg tgttaaacat tccgtccctg tttgagacat cagtatgt 478

<210> 675
<211> 192
<212> DNA
<213> Homo sapiens

<400> 675
acattttctc tgctgcaacc caggatttgg gcttatgatc aggaggaatg gtgattccat 60
attcccagcc tttctcatcc accactcgat ttatgtcata agaccatgca tcatcttccc 120
attcccaacc tggaggacaa gtcaactcgc tgggtgatgc tgctttatcg ccgttcgcat 180
ccgtgtaggt gt 192

<210> 676
<211> 192
<212> DNA
<213> Homo sapiens

<400> 676
acacctacac ggatgcgaac ggcgataaag cagcatcacc cagcgagttg acttgtcctc 60
caggttggga atgggaagat gatgcatggt cttatgacat aaatcgagtg gtggatgaga 120
aaggctggga atatggaatc accattcctc ctgatcataa gcccaaatcc tgggttgcag 180
cagagaaaat gt 192

<210> 677
<211> 388
<212> DNA
<213> Homo sapiens

<400> 677
ctgcaatgtt gcatacagcc aaagctcaac attggaaatc cacatgaggt ctgtgctcca 60
ccagacaaag gctagggctg caaagctgga gcccagtggt catgtggctg gtgggcacag 120
cattgcagca aatgtcaaca gccctggcca ggggatgtta gattccatga gtttagcagc 180
tgtaaacagc aaagataccc atttagatgc caaagaatta aataaaaagc aaactcctga 240
tttaatctct gctcaacctg cacatcaccc accacagtca ccagcacaaa ttcagatgca 300
actacagcac gaattacaac agcaagccgc attctttcag cctcagtttc taaacccagc 360
ctttttgcct cattttccta tgacccca 388

<210> 678
<211> 231
<212> DNA
<213> Homo sapiens

<400> 678
gcggccgccc gggcaggtac tttttttttt tttttttttt tttttcccaa aaaaaatttt 60
taaaaaaagg tttaaagggg cttttttttt tgggtaaaaa aaaaaaaaaa tttttaaaaa 120
actccctttt ttgggggggaa aaaaaaaggg gggttaaaaa attttttttt ttttcccaaa 180
acctaaaaac ttaggggaag gggtttttta aaacaaaaac acctttcttt t 231

<210> 679
<211> 477
<212> DNA
<213> Homo sapiens

<400> 679
acctgtctga agagtgacat taaactttga aaggacttca ctgctccttt acgatattcc 60

aaatagtttt ttacattgga aaagctaatt cttgggattc tttcatacat tttcatcaaa 120
actttcagtg tgattatgta ttcatatctt cagtttaata tgtcagtata atagatattg 180
ttcaaaagtt tcttgttgct aaagtggtgt aatctgctac acagatgaat agctagatgt 240
ggaaagagat atgtaaacaa gaaacctttg ggtattgttt cttaagtaaa tattgggaca 300
atcatggtaa gcaaacttag ttctgtaact gcatttttca ccttaaaagt taaatgaaat 360
gcatgatggt attttattcc ttgaattatg caatgcaaca tattacatgt aaatagcact 420
ggtcatatac tgatgtatat ggttatctgg gttatatcta ttcttatgta aactcta 477

<210> 680
<211> 327
<212> DNA
<213> Homo sapiens

<400> 680
acattcctta agtcccagcc tctcaaacta cagtcaaccg ccccggtcac cagcaaattc 60
tcattgtatt tacaccagtc acaactcaag atttctgcct gatgtgcagg aatcacgatt 120
cttactcctg ctgccttcac atcccatatt ctcagagtct gatcacctga ggctgaagca 180
aaacaaccag ggatgtgggg agaccagatt gtgctataaa taatactttc atggcctcta 240
aaggtgcaca gagactttcc aacagttgga tcccacaatt tgacagtttg atcccatgag 300
ccagacacca caagctgttc acctctg 327

<210> 681
<211> 193
<212> DNA
<213> Homo sapiens

<400> 681
acacctacac ggatgcgaac ggcgataaag cagcatcacc cagcgagttg acttgtcctc 60
caggttggga atgggaagat gatgcatggt cttatgacat aaatcgagtg gtggatgaga 120
aaggctggga atatggaatc accattcctc ctgatcataa gcccaaatcc tgggttgcag 180
cagagaaaat gta 193

<210> 682
<211> 286
<212> DNA
<213> Homo sapiens

<400> 682
acctgtgtga ccaattggta gtacatagat tcacatggct ttcccccata ttgaagatgg 60
aatttttgat caactgtgac atccaaagca aatacgagct ttattcagct tgcttctttt 120
taaatccaaa attaatgttt attctgataa atcaagtggt agagtagtgt gggatctatt 180
gatggcctct ggtaacatct aacctctgtc tcttagtaag tgtgctgttt gaggatcttg 240
tatttcaagc tggaacatta attactgtcc attagactct tttccc 286

<210> 683
<211> 206
<212> DNA
<213> Homo sapiens

<400> 683
accaaatcca tcctctgact tattcttttt cagggaatct ttctccgtcc cttgtttgca 60
tttcttgttg gctgtaaaga tgtattttat gtcaccatct tcaaaggtat atgggtcatt 120
cacttctccc aaactgtctc caggttgttg tgatagaggc aatgggtcaa ggaagtggag 180
tggctgcaac tggcgctgtt tgtctt 206

<210> 684
<211> 411
<212> DNA
<213> Homo sapiens

<400> 684

acagctgccc aagggcgttc gtaacgggaa tgccgaagcg tgggaaaaag ggagcggtgg 60
cggaagacgg ggatgagctc aggacagagc cagaggccaa gaagagtaag acggccgcaa 120
agaaaaatga caaagaggca gcaggagagg gcccagccct gtatgaggac cccccagatc 180
agaaaacctc acccagtggc aaacctgcca cactcaagat ctgctcttgg aatgtggatg 240
ggcttcgagc ctggattaag aagaaaggat tagattgggt aaaggaagaa gccccagata 300
tactgtgcct tcaagagacc aaatgttcag agaacaaact accagctgat cttcaggagc 360
tgcctggact ctcttatcaa tactggtcag ctccttcgga caaggaaggg t 411

<210> 685
<211> 240
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(240)
<223> n = A,T,C or G

<400> 685
ccagcagctt ccagccagtc cccacagcct catcagctct cttaccgttt tttgatacta 60
tcttccccca cccccagcta cccatagggg ctgcagagtt ataagcccca aacaggtcat 120
gctccaataa aaatgattct acctaccnaa nannnnnaaa aaaaaaaaaa aaaaaaaaaa 180
aaaaaaaaaa aaaaaaaaag gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaggtttgt 240

<210> 686
<211> 508
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(508)
<223> n = A,T,C or G

<400> 686
acagactctc tcccatgctg gattaaactt cttaaatact tggaacatct gggccaggcc 60
ttcagtgtcc tccttggcag ggatggcaaa gtagactgct cgggcaagat gaccctccag 120
ctgcacccga ggtccatcca ccaggaaggt atataagacc ttaccccttg ggttataggt 180
ccggtggata aataagatct cagggaaatg gtcaaagaca ctttgcataa agcagctctg 240
gtagttgaag gtatctaact gggcagtctt gttaacctgg tgcagcagca taggtgggct 300
tgagtcctta atcaggagcc cattcagcat tgtcagggcc atgggagaga tgagagctgt 360
ccaaatgcca aggtcaaaat actttctttg cagggcagct gaccacgggg ctttgagtct 420
ctcaagcatc aagtaagttg aggctggagg ctagacaatc attcccagat ctttnttcaa 480
agatgggccc acagccaggc tccgtcgc 508

<210> 687
<211> 282
<212> DNA
<213> Homo sapiens

<400> 687
acggccaggg atgtggaaga tggggacatt cccaaaaaag gcagcaaact tctccgcatc 60
catcgtggct gatgtgacga tgagcttcag gtctgagcgc cgagccacta cctgagagaa 120
gaggcggctc ggaggccccc atggtgggga cccttggctc ctgtccccca gtcccatcag 180
caccaccccc gaggaaacac aagccaaagc tgacaaatgg gcctattcaa ttcttaccaa 240
tcatgaagac tgaagcaatg gagccactgc ccagaaaacc cc 282

<210> 688
<211> 51
<212> DNA

<213> Homo sapiens

<400> 688
gcggccgcag ccatgagtat gctcaggctt cagaagaggc tcgcctctag t 51

<210> 689
<211> 192
<212> DNA
<213> Homo sapiens

<400> 689
acacctacac ggatgcgaac ggcgataaag cagcatcacc cagcgagttg acttgtcctc 60
caggttggga atgggaagat gatgcatggt cttatgacat aaatcgagtg gtggatgaga 120
aaggctggga atatggaatc accattcctc ctgatcataa gcccaaatcc tgggttgcag 180
cagagaaaat gt 192

<210> 690
<211> 406
<212> DNA
<213> Homo sapiens

<400> 690
acaatttgaa ctgttcagat tcctaaaaat catatggctg tttaggatgt cgaaaccatt 60
cttagagcct agacataata tctgaagtaa gtatcagcaa tgcttttaat aattccaaaa 120
ctgttttagt agaaaataag cttgcatgaa gaaggttaaa aaataataaa tgggtgataa 180
attgattttt tttctcccat acaaaactca tgacaacatc atggccataa cgctaatgca 240
ttatgaatgt atggtgtgaa atgtgccatt caaaagcaca ttcaggctga ggaaagacag 300
gcctaaggtt aaggccattg ccactatttt agttcattca taatcaaaac atgtaattag 360
cggtagtaaa agcattctac tgaagagtcc aaagggggac acgatc 406

<210> 691
<211> 440
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(440)
<223> n = A,T,C or G

<400> 691
ctgtgattta atttttgtga taatttctgg cctgattgaa ggaaatttga gaggtctgca 60
tttatatatt ttaaatagat ttgataggtt tttaaattgc ttttttttcat aaggtattta 120
taaagttatt tggggttgtc tgggattgtg tgaaagaaaa ttagaaccac gctgtattta 180
catttacctt ggtagtttat ttgtggatgg cagttttctg tagttttggg gactgtggta 240
gctcttggat tgttttgcaa attacagctg aaatctgtgt catggattaa actggcttat 300
gtggctagaa taggaagaga gaaaaaatga aatggttgtt tactaatttt atactcccat 360
taaaaatctc taatgttaag aaaaccttaa ataaacatga ttgatcagta aaaaaaaaaa 420
aaaaaaaaaa nnnaaatggc 440

<210> 692
<211> 342
<212> DNA
<213> Homo sapiens

<400> 692
acccgagccc cgcttaccct gcctttgcat gtgggtcagg atatgtgatc tccaaggaca 60
tcgtcaagtg gctggcaagc aactcgggga ggttaaagac ctatcagggt gaagatgtaa 120
gcatgggcat ctggatggct gccataggac ctaaaagata ccaggacagt cagtggctgt 180
gtgagaagac ctgtgagaca ggaatgctgt cttctcctca gtattctccg tgggaactga 240
cggaactgtg gaaactgaag gaacggtgcg gtgatccttg tcgatgtcaa gcaagataac 300

agggacttga attagcagag tctaaaatca gggcaggcaa ac 342

<210> 693
<211> 384
<212> DNA
<213> Homo sapiens

<400> 693
actagaccag tggagaattt gacacctttt ctttttgtaa aagtttatgg tattataccg 60
atagaccaaa acagcatgtg taagaggcag tatctgcact aattctcaac atgctaaaca 120
ttaactacaa ttcactgttg tgagaatatt cctcgtcaca gcaaaaacac tttcctttct 180
actgacaacc agtcctccac atcacagcat ttagacatat gggtaaaatg ttatttctag 240
tgaattgttt gtatcagttt catgtctaag tataaatttt ctattttaaa atttaagaac 300
cgtttataat cagtgctttc ccaactcttg ggttgctctc cataactatg tatttgtgaa 360
agaaaatggt cattttttt actg 384

<210> 694
<211> 632
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(632)
<223> n = A,T,C or G

<400> 694
acacactgtt accagtttta taaaatcagg gtcatctggg catggagtcc cagctccatg 60
caacatccca ctggacatct ccttccttgc ttcactggca ggctgggtct cctgtcattc 120
ctactccatt agttcaaggt cagtgaagaa ctggggcaat taaccaagta attcatggac 180
tgcccaactg cgaaacaaga agggcgcagt ggagcaggag tattatgcta cgcggttacc 240
ttttttatg gaggaccgaa ctgaggctga gcctcagatg atcctgcacg aggttatgca 300
gtctaaataa aaggctgtaa ctattcgttg aaacatacga aactgctaac attggactgt 360
ttctgacttt taaagtggca atttcatatg gttcaaccta tagaagccaa aactttctct 420
ggcacaacag attgcttcag gccatctcta cccagctaaa caccccatcc cactaacacc 480
tgtaactagg agggaagcaa gagttctttg taagaagtag ctaactactt cttttcctag 540
cttgtgcacc caggctctaa gggaagaagg cctagggtct ctataatgct ngatacctag 600
ttaaaatcac atctaaatgg cttactattc at 632

<210> 695
<211> 308
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(308)
<223> n = A,T,C or G

<400> 695
gaagtccgta gtgtctcatt gcagataatt tttagcttag ggcctggtgg ctaggtcggt 60
tctctccttt ccagtcggag acctctgccg caaacatgct ccgccagatc atcggtcagg 120
ccaagaagca tncgagcttg atccccctct ttgtatttat tggaactgga gctactggag 180
caacactgta tctcttgcgt ctggcattgt tcaatccaga tgtttgttgg gacagaaata 240
acccagagcc ctggaacaaa ctgggtccca atgatcaata caagttctac tcagtgaatg 300
tggattac 308

<210> 696
<211> 514
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(514)
<223> n = A,T,C or G

<400> 696
acttttattt ctaaaaacat ctgccaaata aaaccaacca aaactcatta ttttcaccat 60
taccaagagc tagctctatt aaatttatat caacaagtta atctgtctct atatagggaa 120
ggtttccgca aactaaaatc taaacctaac ttttgtagac agggattatg gtaggaattt 180
ggtattacaa ctaaaccagc cagctaagga gtgaacctaa gaaaaaatat attacatatc 240
cttattgaca gaatcacagt tagatgctgc actaaaaccc taaatggtat atctctcagc 300
ccacgtaaaa tttcagctca agaagttcac aaatagaaac agataataat gttcaaatat 360
tacttaagag tgattacact taagtcaaac atgggaaaga atagcaaata caaaccccag 420
ggaaaaatga gattatgggt gatttccaat gcagtttcta tagattaggc agaggtaatc 480
attntaaagt gattcattca actacccaga ctct 514

<210> 697
<211> 282
<212> DNA
<213> Homo sapiens

<400> 697
accatttcta ggcttcttaa agcggacagg atatgcacat gtctgtcctc cataccgtgt 60
tcattatgtt ctaaaagttg gatcccatca gtttgtttta tagaatgaag acaggtgtgt 120
gtgtgtgtgt gtgtgtgtgt gggtgtgtca cacaaagaga gagagagaga gtgagagtgc 180
gtgactcttt ggacatttgc tgtttattta taatgcgacc ccagatatgg agtttcagtg 240
tctggaggac gtgttacagc atgtggtatc ctgggcatct ac 282

<210> 698
<211> 129
<212> DNA
<213> Homo sapiens

<400> 698
accgctccaa actcatcctc ttccccagga agccctcggc ccccaagaag ggagacagtt 60
ctgctgaaga actgaaactg gccacccagc tgaccggacc ggtcatgccc gtccggaacg 120
tctataaga 129

<210> 699
<211> 238
<212> DNA
<213> Homo sapiens

<400> 699
accatttcta ggcttcttaa agcggacagg atatgcacat gtctgtcctc cataccgtgt 60
tcattatgtt ctaaaagttg gatcccatca gtttgtttta tagaatgaag acaggtgtgt 120
gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt cagagagaga gagagagaga gagagagaga 180
gagactttca agacctttgc aaataatttc cactgtgacc ccagctctgc agtctcat 238

<210> 700
<211> 481
<212> DNA
<213> Homo sapiens

<400> 700
actcgtcaat gggctcggtc atatatacca cctcgaagcc ccgtttccgc actcgctcca 60
caaaagctga gttggccacc tgctctttgc tctcaccagt gatgtaatag atggacttct 120
gtgtctcctt catgcgagaa acatactctg acagagatgt catctcatct ccagactggg 180
aggtatgata gcgcagcagc tcagacaggc ggcggcggtt agtggagtct tcgtggattc 240
caagcttgag atttttagag aatgcctcat agaatttctt ggaattctcc ttgtcttctg 300

ccagctcaga gaagagctca aggcacttct taacaatgtt tttgcgaatg actttcaaga 360
ttttgctctg ctggagcatt tctcggaaga tgttcagggg cagatcctca gagtcaacca 420
caccacggat aaaattgaga tactctggta tcaactcatc cagctgtcca tgatgaacac 480
a 481

<210> 701
<211> 447
<212> DNA
<213> Homo sapiens

<400> 701
ttacttttag aataatttat atctgataaa ttgaatacat caggatttga tgtattaaga 60
gcaatttcaa aagataataa aaataagcta tagcatatgt cctgaaaact atttacaata 120
ccatttaaat attttattca tatctatccg aatattgacc aggacactaa tgccacactg 180
cagagttaat aatctgtgca ttttctttac cgtaatggac agagtatgct ttcttagctg 240
cctgattcac atttctctaa aaatgcttta tcggttaaag ctttcaacca gcttaaaaat 300
aatgcctctc ccatgtcttc atgagtggaa aaaaagcaaa caaaccttgt gtttaacaat 360
aaggtcagca tgacatacag caacaagagc cagtaaatcg aaaatgaggc tgacattctg 420
ggactaggcc agcagtcctg caacagt 447

<210> 702
<211> 192
<212> DNA
<213> Homo sapiens

<400> 702
acattttctc tgctgcaacc caggatttgg gcttatgatc aggaggaatg gtgattccat 60
attcccagcc tttctcatcc accactcgat ttatgtcata agaccatgca tcatcttccc 120
attcccaacc tggaggacaa gtcaactcgc tgggtgatgc tgctttatcg ccgttcgcat 180
ccgtgtaggt gt 192

<210> 703
<211> 451
<212> DNA
<213> Homo sapiens

<400> 703
gagaaagtga tatacatact acataattgt tctgttggtt aatatgccca aaataatagt 60
tactatcatt acatcttaca gaaacaaaaa ctttaagctt attacttttc agaaggaaaa 120
aagtatccta taactgaaaa taaattttcg ccacaatagc aaaatagaaa aaataaatct 180
tcctgaaaca ttagcaagag attttagttt ttatttgttt aaagagtata ggtgggtggt 240
ttcaagaaaa gacttttgct aaaagcagct agcaataaga ttatggctat caaaccagtt 300
tctttcatag aaagtgacca tttcttgaag tgctactgtt tttgaaagtt tcttagaaca 360
gtctcagcat tctaaacagt ctgtagttct acatatttgt tgttgcaatc ttgggcagga 420
aaatcactaa taacaggaaa cagaggccgg g 451

<210> 704
<211> 537
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(537)
<223> n = A,T,C or G

<400> 704
cttctgtcgc accaggctca tcctgtccat cgtgtgcctg atgatcacgc agctggctgg 60
cttcagtgga ccagtaagtt ctaaccatcc tttccgacag tctccagggg cccggccacg 120
gccagctcta acactcttat tctgttgcag aggttgtgct cagctttggg ctaggtagca 180
gtcttagaga tgccttcagg tctgttgaaa ggggtcgatg gattttggca acagctggaa 240

ggatgaaagg gcagtgttgc cagagaagaa atggaactgg cttgatttct ggngtggggg 300
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gaactgacag tcggtgcagg cagatgtgtc ttgcagtgct atgagtgggt gagagcacgt 420
ttgtgtggcc cgggctggtg agccagcacc gggaacatac caagtgcctg gaggcagtta 480
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<210> 705
<211> 501
<212> DNA
<213> Homo sapiens

<400> 705
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tgaagctgag tatcaccaag ctccgggcgg caagagagaa gcgggagagg acgctgggtg 180
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agggacgctt ttcagcagcc cctctcgtgg acctcagcct gtcaccacca tctgggctgg 360
actcccccaa tggcagcagc tcgctgtccc ccgagcgcca gggcaacggg gacctgcctt 420
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tccagttctt cctgcccctc g 501

<210> 706
<211> 192
<212> DNA
<213> Homo sapiens

<400> 706
acacctacac ggatgcgaac ggcgataaag cagcatcacc cagcgagttg acttgtcctc 60
caggttggga atgggaagat gatgcatggt cttatgacat aaatcgagtg gtggatgaga 120
aaggctggga atatggaatc accattcctc ctgatcataa gcccaaatcc tgggttgcag 180
cagagaaaat gt 192

<210> 707
<211> 518
<212> DNA
<213> Homo sapiens

<400> 707
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ggatctggtc atggctcctt ggggcggcga tggtaggggc cgtcctcact gccctgctgg 180
cagggcttgt gagcttgctg tgtcgtcaca agagaaagca gcttcctgaa gaaaagcagc 240
cactcctcat ggagaaagag gattaccaca gcttgtatca gagccattta taaaaggctt 300
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cccagagaat atctgctggt atttttctgt aaagaccatt tgcaaaattg taacctaata 420
caaagtgtag ccttcttcca actcaggtag aacacacctg tctttgtctt gctgtcttca 480
ctcagccctt ttaacatttt cccctaagcc catatgtc 518

<210> 708
<211> 476
<212> DNA
<213> Homo sapiens

<400> 708
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gtgaactcag ctcactgcaa cctctgcctc cctggttcaa gctattctcc tgcctcagcc 120
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cagcctccca aagtgctggg aagacaggcg ttagccaccg tgcccggcct ctgtttcctg 300
ttattagtga ttttcctgcc caagattgca acaacaaata tgtagaacta cagactgttt 360

agaatgctga gactgttcta agaaactttc aaaaacagta gcacttcaag gaatggtcac 420
tttctatgaa agaaactggt ttgatagcca taatcttatt gctagctgct tttagc 476

<210> 709
<211> 417
<212> DNA
<213> Homo sapiens

<400> 709
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tatttgggtt gctgaatgaa gatataggac tttatggatt gattgttaat ttaactgtta 120
ggacgatata tttttctgtt tttattttaa ggaagagcaa agctgtcaaa taagctacta 180
tatcagaagg gacataaact gaactagtgc cattctgaca cacaggatca gaaactccta 240
aaatcacata ttcctgaata ctgctatcag caataccact gagactgatt cactgctatg 300
ttatggtgat gatttgacat gatccattct ccttaactaa agctttagct tctgtggttg 360
tctgaggttt tggtggccat tctggatcaa ccaagagctc ctgcgccaga tacatgt 417

<210> 710
<211> 479
<212> DNA
<213> Homo sapiens

<400> 710
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ctgttgggtt ggtttctgtt cactggctct ctacatttgc caggattctt tggggaggca 180
gtcacaggag tgaggtgcag ttgcttttcc cacgagttag ggaactcct gctgcctgaa 240
cacaaacaac cctgacatgt tcccttctcc aagaggagat gtgatgacaa ttgtcttttg 300
gcacaattga actctagaaa ctccattttt gtttttccag aggtctgaat cccaaataac 360
agaattttgt gcagtaggga ccaggagccc tagtaaggat gggtggccct ggtggccagc 420
aatgctcact attactgctc agagagaggg ggccagtcat gggaagaggc tagatttcg 479

<210> 711
<211> 515
<212> DNA
<213> Homo sapiens

<400> 711
gacgttgaca ggtctggtac catgaattcc tatgaaatgc ggaaggcatt agaagaagca 60
ggtttcaaga tgccctgtca actccaccaa gtcatcgttg ctcggtttgc agatgaccag 120
ctcatcatcg attttgataa ttttgttcgg tgtttggttc ggctggaaac gctattcaag 180
atatttaagc agctggatcc cgagaatact ggaacaatag agctcgacct tatctcttgg 240
ctctgtttct cagtactttg aagttataac taatctgcct gaagacttct catgatggaa 300
aatcagccaa ggactaagct tccatagaaa tacactttgt atctggacct caaaattatg 360
ggaacattta cttaaacgga tgatcatagc tgaaaataat gatactgtca atttgagata 420
gcagaagttt cacacatcaa agtaaaagat ttgcatatca ttatactaaa tgcaaatgag 480
tcgcttaacc cttgacaagg tcaaagaaag cttta 515

<210> 712
<211> 101
<212> DNA
<213> Homo sapiens

<400> 712
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aggttttttt tttttttttt tttttttttt caggaaataa a 101

<210> 713
<211> 325
<212> DNA
<213> Homo sapiens

<400> 713
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tccggtcccc atagcccatc ccctccttgc agaggccaaa gtctgcgatc ttgacgtagc 120
cctcggtgtc caggagcaaa ttgtccaact tcaggtccct gtagacgatc ttgtgttcgt 180
gaagaaactg taggcccagc accacgcagg cggaataaaa gatggcacgg ggctcagaga 240
acacgtcgct gtggatgtgc agcatcaggt ccccaccggc cgagtacctg ccccgggcgg 300
ccgctcgaaa gccgaattcc agcac 325

<210> 714
<211> 341
<212> DNA
<213> Homo sapiens

<400> 714
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acacttacca ccctggtcca ccgatcccac cccatgcttc cacctcccag agctcttgag 120
ataagacctt aagaaggatc cttgggcttg cattaaaacc actttgctgt ccgtggaggt 180
ctaacaggac ccaatagttg ttactacaaa agtgcttttg caaatagggc aagttagaag 240
aaggaggtaa tatgaatatt ctttagaaaa actcaaatcc atcggcttat caatacccaa 300
agtctgaggc tacccaaggc acaatttggt ccatggaatg c 341

<210> 715
<211> 456
<212> DNA
<213> Homo sapiens

<400> 715
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tttttttttt tttttttttt tttttttttt tttttttttt tttttgggggg gaaattaaag 120
gggggggacc ccggggtcaa cccggaaaat tcggaccggg acctggaggg gtaccaattt 180
ttcctaaaag gaagggaatt aaaacttggg gaaaaaaagg gaaaaagtgg ttcctgggga 240
aaaatgttat cccctcaaaa atccaaaaaa aaaaaaaacc ggaaaaaaaa aagggaaaac 300
ccggggggcc caaagaggga gccaacccaa attaattggg gtgggccaaa cgccccccttt 360
caaaagggaa aaactgttgg gccaattgaa ttaaaaaaac ccccaacccc ccgggaaaag 420
gggttttttt tttgggcccc aagggggttt tttttt 456

<210> 716
<211> 356
<212> DNA
<213> Homo sapiens

<400> 716
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aaaatttaat gtataatctt gatgatgtgt ataaatcatc gggtgccctt tggggtgtaa 120
aaatgggttc ttgagcatca ttgtctaatg attccatcac aaatttgtta taaagccaaa 180
ctcccattga aagtgtcact ttttgctaat taggaaatcg ttttgattaa agcatcaagg 240
aagcatatat aaagtttaat gaaaatccat ggggaagttc taaatcgcaa aacttggcac 300
ttatttacag tattttgaaa aataacacca ccggtattca aacctaccta ggaata 356

<210> 717
<211> 380
<212> DNA
<213> Homo sapiens

<400> 717
gcgtcgtccg caaactgtgg gttactttac cctgcgggat tcttgcattg attcgagtgc 60
tgttggaagt gtaatctgct tggggaaacg agtacctcat gagagaaggg aggataaagg 120
tccgtggctt acctgcttct ttggtgatga tcaggaagcc ttatatttga gggtttaagt 180
gcttaagatt tatattcttt actgctttgg gtggatactg gtgggaaaga agaaaaaaga 240
catctagagg aagccctata ttataaatct gggtggcaag tctggatctg cgggagtatc 300

tttttgttga tcaaagttgt gcagtctctt caagccgagt caaaaaaaca tgccatggag 360
ttgttctgct ccacctgttc 380

<210> 718
<211> 278
<212> DNA
<213> Homo sapiens

<400> 718
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ttgtggaaga tgttttccat ggcccctacg gaaatttcct catgtgcgat actagtgcca 120
aaaacctagg atataatgat aagtatgatt tgaaaatggt ggatatgaga aaaattgtgc 180
cagagacaaa cctgaaagaa cttattaagg atcgtcactg tgagtctgac ttggactgtg 240
tctatggcac agattgtaga actagctgtg atcagagt 278

<210> 719
<211> 192
<212> DNA
<213> Homo sapiens

<400> 719
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attcccagcc tttctcatcc accactcgag gtatgtggtg agaccatgca tcatcttgcc 120
attcccaacc tggaggacaa gtcaactcgc tgggtgatgc tgctttatcg ccgttcgcat 180
ccgtgtaggt gt 192

<210> 720
<211> 211
<212> DNA
<213> Homo sapiens

<400> 720
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gtgtgactac tgtgggtcag cttatattca gataagctgt ttcatttttt attattttct 120
atgttaactt ttaaaaatca aaatgatgaa atcccaaaac attttgaaat taaaaataaa 180
tttcttcttc tgctttttttc ttggtaaaaa a 211

<210> 721
<211> 238
<212> DNA
<213> Homo sapiens

<400> 721
ctcaggaacg agcggtcatt ctttctgacc ttggtcacgg cagtctgcat actcttcaag 60
gagctggact ttttcaaacc cagagttgga ccaaaatctt tgcttggaga ttccgatttt 120
tgtccaacca atgagtgaac cttgctttca tctggtacaa ggtccatgct cttcgaggct 180
ttcaaattaa ttgattcagg ctgcctggcc ggtgtcacag atctgaagtt gatgtgct 238

<210> 722
<211> 172
<212> DNA
<213> Homo sapiens

<400> 722
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tcttcctttt tgtctccctc acaagtaaga tgagcacacc cagtctcgtt cccaagctct 120
aattcaggct gaataatcct cttctcaggg gcacacatca ccttctctct tg 172

<210> 723
<211> 321
<212> DNA

<213> Homo sapiens

<400> 723
gcagagtgtg gccacagctc cttttatggc caagccttgt ttctccagtt tcagtttttc 60
ttgggctgtt tgcaaatttg tttcgcagtt aaaaggggat ttgccagctg ggatgggga 120
attgggaggc agatggggct tccaggagcg aggatagggt cgttggcctc aggtgccgct 180
ctccagttag gagtatttta ggcacctcgt tccttattgt caggtttaac ttcatttgtt 240
ctcccacttt ataccttagt gaatttgtag atgtgacaag gctttcgcag ttatatagct 300
ttcccagatc agtatcgagc g 321

<210> 724
<211> 216
<212> DNA
<213> Homo sapiens

<400> 724
acccgagcta tcagctggtg tagccagtag gcaagaagaa tggagaactg caaagggaga 60
agaagaaata aagacttaca ggtcagaagg aaaagaaaac acttaactgt tccaaaagag 120
aataaaatac ccactgtctc aaagaatcat gctcatgagc attttctgga tcttggagaa 180
tccaaaaagc aacagacaaa tcaacacaat tatcgt 216

<210> 725
<211> 237
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(237)
<223> n = A,T,C or G

<400> 725
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tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 120
ttttttnggg gggggggttt tttttttttt ttttaggggg ggggaggggg gggttttttt 180
tttaaaaaaa aaaaaagggg gttttttttt tttaaaaaaa aaaatttttt ttttttt 237

<210> 726
<211> 405
<212> DNA
<213> Homo sapiens

<400> 726
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attctcgcct tgccacataa tcccaagtga gaggatcatc tgtgtgtaga gcctgaaggt 120
catcacaaat ctctttttgt agatctttgg caaagtcaaa tagctgtgca atcgaaagca 180
gtgacacgtg aaattctgca cctttaatta tgcttacaga atttttgtag atgatccatg 240
ccaactcgcc cttaaggatt tcttcagaat aatcaggatt ctccacatcc atactggctt 300
tttcaaattc ttccttctcc ttcctcagtt tttcagcatg catcagctcc atcctaaagt 360
attcttataa agttttgggc actctggatg aaagcgcagt gcgcg 405

<210> 727
<211> 480
<212> DNA
<213> Homo sapiens

<400> 727
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taaaatgaga gagtctgact cccaagatta aaatcaatcc aaaattcctc aagtttttca 120
tctgatggta tttgcagctc atatttatca agaaatgctg ataaacaagg aaatgtaaag 180
acccttcttt tgtctccaag catgccattt acaaggttga gaaatatcct gcaatctgtt 240

tcaaattcag agtccttaat tcttttaaat gccttagcaa taaaatccat tgaaaaccac 300
tgatgtgcca gttcttgtct ttgtttttct ggggtcattc tacacaaagc ttctacaatg 360
cctacctgta agtcataatc tccagcatct aaaatccttt cttccatact actcatgaga 420
attaacattt cttggtttga gagtattttt cgggcatctt gaggcatttt gtctaggaat 480

<210> 728
<211> 371
<212> DNA
<213> Homo sapiens

<400> 728
ctctttagga gtgattttgt cagcatagct cctcaagtat agttcctcaa taattgatat 60
gtgaactaaa gcaacgagtt actgactgcc catacgccca tcataaatga tggtagcaag 120
gatatggctt agacagtttt attcaaaaag agagaaattg ggaggcaccc agcaaacact 180
ggtctataac atttctgaat tccagtcaga tatgtgttga tgatttcttg ataaggagct 240
cagtcttatt ctctgggagt tctctgaggt tcttgcctct gccctctgag tcatccttcc 300
ttttgcataa aaactggcct gtgggctctg tgtgcagcca agtagccttc ttatcctgct 360
tcgtgcccat g 371

<210> 729
<211> 200
<212> DNA
<213> Homo sapiens

<400> 729
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gtcaaaattg gttttattgc cagccacata tttagtataa aaagaagggc acaaatggct 120
cagtgttgtt ttttaaaaaa atccaggttg tgcaggttgt tctatttaca tttgggagaa 180
gagcttttcc cacatcaggc 200

<210> 730
<211> 370
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(370)
<223> n = A,T,C or G

<400> 730
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cctaagaaca gctaaaagag cacacccgtc tatgtagcaa aatagtggga agatttatag 120
gtagaggcga canacctacc gagcctggtg atagctggtt gtccaagata gaatcttagt 180
tcaactttaa atttgcccac agaaccctct aaatcccctt gtaaatttaa ctgttagtcc 240
aaagaggaac agctctttgg acactaggaa aaaaccttgt agagagagta aaaaatttaa 300
cacccatagt aggcctaaaa gcagccacca attaagaaag cgttcaagct caacacccac 360
tacctaaaaa 370

<210> 731
<211> 321
<212> DNA
<213> Homo sapiens

<400> 731
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tttggtgaca atagaaagaa ccagcttaaa gatatggcta ttgctactgg tggtgcagtg 120
tttggagaag agggattgac cctgaatctt gaagacgttc agcctcatga cttaggaaaa 180
gttggagagg tcattgtgac caaagacgat gccatgctct taaaaggaaa aggtgacaag 240
gctcaaattg aaaaacgtat tcaagaaatc attgagcagt tagatgtcac aactagtgaa 300

tatgaaaggg aaaactgaat g 321

<210> 732
<211> 227
<212> DNA
<213> Homo sapiens

<400> 732
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gtccttgaat atccagccca gtaagaatat tttttacatc atgactttag ataacacgtt 120
tataactgaa gcaaaagctc gaagagacaa cacttaactg tactacagga gttacacccc 180
atgcattttt aattccaatt ttgtgtgtgt gtgtgtgtgt gtgtgtg 227

<210> 733
<211> 396
<212> DNA
<213> Homo sapiens

<400> 733
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tgagcctggg ctatggcatt gagaagcctc gtttaggaac agtcatgcac cgggtgatcg 120
gactggggct tctatactta atctttgcag ctgttgaagg cgtgatgaga gtcattgggg 180
gttctaacca tttagctgtt gttcttgatg acattatttt agcagttatt gactccattt 240
ttgtgtggtt catttttatt agtttggcac atactatgaa gaccctaagg ctttaaaaag 300
aacactggga aatttttatt atatagacat ttttaaaaat actctgaact ttgctgcgct 360
ggctttctat tagtgtttaa tggggtggga caactt 396

<210> 734
<211> 243
<212> DNA
<213> Homo sapiens

<400> 734
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caaggagctg gacttttgca aacccagagt tggaccaaaa tctttgcttg gagattccga 120
ttttgtcca gccaatgagt gaacctttgc tttcatctgg cacaaggtcc atgctcttcg 180
aggctttcaa attaattgat tcaggctgcc tggccggtgt cacagatctg aagttgatgt 240
gct 243

<210> 735
<211> 479
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(479)
<223> n = A,T,C or G

<400> 735
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gaaaaggaga agcttactac agctttattt gaggactttt taaagaacgc tgggttctat 180
ctgtgagctg caaatcttgg agcaaaaacc agagacattg ccagagcaaa caagaacaga 240
gatacaaatg gagaactggt caaaagacat aacccacagt tatcttgaac aagaaactac 300
ggggataaat aaaagtacct cggccgcccg ggcaggtact ttaccagcag accacagttt 360
tgccctggct agaccaaccc tcagaacaaa atcatcattc cttggattta tatttgnatc 420
tgagatagta aacaagatgg ctggccaggg taacatggca ccttaactta ttttttaat 479

<210> 736
<211> 380

<212> DNA
<213> Homo sapiens

<400> 736
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ctactggttc tgtctgctgt gcaggaaggc agtccggctc tttgacactc cccaagccaa 120
aaaggatggc taaatgctcc tgggagtcag gcgcagcctc acaccagctg cctcctccac 180
tcagcattcc atggaccaaa ttgtgccctg ggtagcctca gactttgggt attgataagc 240
cgatggattt gagtttttct aaagaatatt catattacct ccttcttcta acttgcccta 300
tttgcaaaag cacttttgta gtaacaacta ttgggtcctg ttagacctcc acggacagca 360
aagtggtttt aatgcaagcc 380

<210> 737
<211> 335
<212> DNA
<213> Homo sapiens

<400> 737
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tcctggagtg gggtgtctat caaccctgcc cagagccata gaacacatgc tgtggcttta 120
acaatccaag tttggaagtt aacgctaatt agaaaggtca caaacctgga aacggcggcc 180
actcactctg attctcatca ctccacaact gaacaatggg ggaaaagaga ctaatggaca 240
gtaattaatg ttccagcttg aaatacaaga accacaaaca ggacacttac taagagacag 300
aggttagatg ttaccagagg ccatcaatag atccc 335

<210> 738
<211> 525
<212> DNA
<213> Homo sapiens

<400> 738
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attctcgcct tgccacataa tcccaagtga gaggatcatc tgtgtgtaga gcctgaaggt 120
catcacaaat ctctttttgt agatctttgg caaagtcaaa tagctgtgca atcgaaagca 180
gtgacacgtg aaattctgca cctttaatta tgcttacaga atttttgtag atgatccatg 240
ccaactcgcc cttaaggatt tcttcagaat aatcaggatt ctccacatcc atactggctt 300
tttcaaattc ttccttctcc ttcctcagtt tttcagcatg catcagctcc atcctaaagt 360
attctttata aagttttggg cactctggat gaaagcgcag tgcgcgaaga aatagttgcc 420
ttgcgctttc tgaagacaat cgatcttcca tttcccattt ggctgccata atccacaaag 480
ctggtttgtt ggaatgaatc gccaacatgg cagagaatac cttgc 525

<210> 739
<211> 418
<212> DNA
<213> Homo sapiens

<400> 739
gcgtccgcgt tggtccggat ggtctagtct atgcagtcga gttctcccac cgctctggcc 60
gtgacctcat taacttggcc aagaagagga ccaacatcat tcctgtgatc gaggatgctc 120
gacacccaca caaataccgc atgctcatcg caatggtgga tgtgatcttt gctgatgtgg 180
cccagccaga ccagacccgg attgtggccc tgaatgccca caccttcctg cgtaatggag 240
gacactttgt gatttccatt aaggccaact gcattgactc cacagcctca gccgaggccg 300
tgtttgcctc cgaagtgaaa aagatgcaac aggagaacat gaagccgcag gagcagttga 360
cccttgagcc atatgaaaga gaccattgcc gtggtcgtgg tgagtgtaca ggccaccc 418

<210> 740
<211> 574
<212> DNA
<213> Homo sapiens

<400> 740

atgggttgtt cccgtgctct tctcatgata gtgagtaagt ctcataagaa ctgatggttt 60
tcaaatgggg agtttccctg cacaagcttt cttgtctgcc actatgtgag atataccttt 120
caccttccgc catgattgtg aggcctcccc agccacgtgg aactgtgagt ccattaaacc 180
tctttttctt tataaattac ccactctcgg atatgtcttt ataagcagtg tgaaaacaga 240
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tgagctgttc aggccgcctg ttccccgacg aggtaagttc caggggacag aaacaagctc 360
tctgaagact ctcattaatc tttgctgtcc gaagctacct tctccatctc ctgctcacct 420
gggaggactc cctggaggaa gccaggaaag gtgaaaatcc atgtatctct tcacatttgg 480
agaacaaagg gaattcaaga acaattttat ggattttctt tgttttttat taattaagac 540
atgcctgttt taaattagac aataattttt taaa 574

<210> 741
<211> 319
<212> DNA
<213> Homo sapiens

<400> 741
atgcatacat agaggtatgg ttgaaaaaga tgaacagtga gatacccagg atatcagatg 60
caggaaccca agcattggcc aatgagactg cagagctggg gtcacagtgg aaattatttg 120
caaaggtctt gaaagtctct ctctctctct ctctctctct ctctctctga cacacacaca 180
cacacacaca cacacacaca cacacctgtc ttcattctat aaaacaaact gatgggatcc 240
aacttttaga acataatgaa cacggtatgg aggacagaca tgtgcatatc ctgtccgctt 300
taagaagcct agaaatggt 319

<210> 742
<211> 424
<212> DNA
<213> Homo sapiens

<400> 742
ccacgcgtcc gccattacct atgctcctat tatccgcttc tgtcccgcaa caaagtagct 60
cacttaggcg tatgaccaca tgcattatga tagtttccca ccaccatatt gaataataaa 120
agctttggcc aaagcttttt taaagtagga gaaacattgg gatgtatatg ttttgcattg 180
ccatttgatt tcaaattaat caggaagaat tagtgatttt aatgagcagt aaagtggtgc 240
aataaagcag aaagaaaaat gttcagccag aagtgaaaga ctagtaaaaa aagaaaaaaa 300
aatatttgta catatgatct aatttagaaa gtccagaatt ggcttcatac agaaaagtga 360
ttactttcat tttacaaatt actttaaaat tttggtaaag tttctgttag gcttctggtc 420
taca 424

<210> 743
<211> 349
<212> DNA
<213> Homo sapiens

<400> 743
actgtcctga gtggtttgga aggtgggtag ccgctgatac ggggacaggc agatgtgcag 60
acacttacca ccctggtcca ccgatcccac cccatgcttc cacctcccag agctcttgag 120
ataagacctt aagaaggatc cttgggcttg cattaaaacc actttgctgt ccgtggaggt 180
ctaacaggac ccaatagttg ttactacaaa agtgcttttg caaatagggc aagttagaag 240
aaggaggtaa tatgaatatt ctttagaaaa actcaaatcc atcggcttat caatacccaa 300
agtctgaggc tacccagggc acaatttggt ccatggaatg ctgagtgga 349

<210> 744
<211> 385
<212> DNA
<213> Homo sapiens

<400> 744
ggccgcccgg gcaggtacat aatcgttttg tggagtcggc acagttcagg ttatggaggc 60
acgtaattca ccaaagtgca aaaaaggcaa aggaaaacac gctgcattgt agaataaggc 120
attcaaatgt gctgttaacg tttaaggcag ctaatggcca aaacaggcaa gtcaagaaaa 180

gtggtctggt ttggaggtga ttttgcatct agaaggcatt ctcttctcgt gacctcaaag 240
actgagcact gtagagcatg tcttcttcct caaggccaat gatacttcag ataccagatg 300
gtttcatttt tcaattgcgg tccaaagaaa gggttgagtt ggggccaaga attgcaatca 360
ggccaaaaga gatagcagca aactg 385

<210> 745
<211> 521
<212> DNA
<213> Homo sapiens

<400> 745
gcgacggagc ctggctgtgg gcccatcttt ggaaaaaaga tctgggaatg attgtctagc 60
ctccagcctc aacttacttg atgcttgaga gactcaaagc cccgtggtca gctgccctgc 120
aaagaaagta ttttgacctt ggcatttgga cagctctcat ctctcccatg gccctgacaa 180
tgctgaatgg gctcctgatt aaggactcaa gcccacctat gctgctgcac caggttaaca 240
agactgccca gttagatacc ttcaactacc agagctgctt tatgcaaagt gtctttgacc 300
atttccctga gatcttattt atccaccgga cctataaccc aaggggtaag gtcttatata 360
ccttcctggt ggatggacct cgggtgcagc tggagggtca tcttgcccga gcagtctact 420
ttgccatccc tgccaaggag gacactgaag gcctggccca gatgttccaa gtatttaaga 480
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<210> 746
<211> 862
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(862)
<223> n = A,T,C or G

<400> 746
natgtacagt cacggggcag agcttgcata gggatccagg tgttactagt cttactctgg 60
agctggtcca actcagtttc atggcacaga actagattag gtctccactg cgcagtctgt 120
tttactgctt agggaaagcc agcttttcta cccacacacg tttagtttga agagtatcta 180
tttttggagg gttctttggg aggttgggca ggcttctttg gatcccagat acatttagag 240
ctttttgcat taagtgtgag gaaaataact tctctttgat gatgttgata caccatgtgg 300
gcaccctggg gcacagcggt ttagctgggg agattccatg agaatgaacc caaactactc 360
ttctttgcta gggtccttta cccacacaga ggtgagcctt tcaggttctt cattttgctt 420
agtttcttcc cttgtccttg gcatttaaga ggcatccatg tgttagccag ccaaagcccc 480
ctgaaggagc tggctgcttt aaaggattta cttgggagga tgtcaaatgg ctttgccttc 540
tgcagacttc atttatttta atctttttat ggctcctttc tcttgcttta aaacaggatt 600
ataagcacac agcaggtact gacacctgaa gtcttactaa attcctgtcc tcaggccatc 660
ctttttctcc tgaaacctgg actccaattt tcaatgacgt ttttgttttt ctctttcaag 720
cctaactatg ggacagcttt acgagaagga cttctgaggg ccattgctgg gctaggtgca 780
ccgtaactgc ttgtgtatct tgtaaatagc cagccatttt cagttattat accagaacct 840
cttcacatag acctattagn nn 862

<210> 747
<211> 862
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(862)
<223> n = A,T,C or G

<400> 747
natgtacagt cacggggcag agcttgcata gggatccagg tgttactagt cttactctgg 60
agctggtcca actcagtttc atggcacaga actagattag gtctccactg cgcagtctgt 120

tttactgctt agggaaagcc agcttttcta cccacacacg tttagtttga agagtatcta 180
tttttggagg gttctttggg aggttgggca ggcttctttg gatcccagat acatttagag 240
ctttttgcat taagtgtgag gaaaataact tctctttgat gatgttgata caccatgtgg 300
gcaccctggg gcacagcggt ttagctgggg agattccatg agaatgaacc caaactactc 360
ttctttgcta gggtccttta cccacacaga ggtgagcctt tcaggttctt cattttgctt 420
agtttcttcc cttgtccttg gcatttaaga ggcatccatg tgttagccag ccaaagcccc 480
ctgaaggagc tggctgcttt aaaggattta cttgggagga tgtcaaatgg ctttgccttc 540
tgcagacttc atttatttta atctttttat ggctcctttc tcttgcttta aaacaggatt 600
ataagcacac agcaggtact gacacctgaa gtcttactaa attcctgtcc tcaggccatc 660
ctttttctcc tgaaacctgg actccaattt tcaatgacgt ttttgttttt ctctttcaag 720
cctaactatg ggacagcttt acgagaagga cttctgaggg ccattgctgg gctaggtgca 780
ccgtaactgc ttgtgtatct tgtaaatagc cagccatttt cagttattat accagaacct 840
cttcacatag acctattagn nn 862

<210> 748
<211> 862
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(862)
<223> n = A,T,C or G

<400> 748
natgtacagt cacggggcag agcttgcata gggatccagg tgttactagt cttactctgg 60
agctggtcca actcagtttc atggcacaga actagattag gtctccactg cgcagtctgt 120
tttactgctt agggaaagcc agcttttcta cccacacacg tttagtttga agagtatcta 180
tttttggagg gttctttggg aggttgggca ggcttctttg gatcccagat acatttagag 240
ctttttgcat taagtgtgag gaaaataact tctctttgat gatgttgata caccatgtgg 300
gcaccctggg gcacagcggt ttagctgggg agattccatg agaatgaacc caaactactc 360
ttctttgcta gggtccttta cccacacaga ggtgagcctt tcaggttctt cattttgctt 420
agtttcttcc cttgtccttg gcatttaaga ggcatccatg tgttagccag ccaaagcccc 480
ctgaaggagc tggctgcttt aaaggattta cttgggagga tgtcaaatgg ctttgccttc 540
tgcagacttc atttatttta atctttttat ggctcctttc tcttgcttta aaacaggatt 600
ataagcacac agcaggtact gacacctgaa gtcttactaa attcctgtcc tcaggccatc 660
ctttttctcc tgaaacctgg actccaattt tcaatgacgt ttttgttttt ctctttcaag 720
cctaactatg ggacagcttt acgagaagga cttctgaggg ccattgctgg gctaggtgca 780
ccgtaactgc ttgtgtatct tgtaaatagc cagccatttt cagttattat accagaacct 840
cttcacatag acctattagn nn 862

<210> 749
<211> 775
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(775)
<223> n = A,T,C or G

<400> 749
nncgtcgcaa actactcttc tttgctaggg tcctttaccc acacagaggt gagcctttca 60
ggttcttcat tttgcttagt ttctttcctt gtccttggca tttaagaggc atccatgtgt 120
tagccagcca aagccccctg aaggagctgg ctgctttaaa ggatttactt gggaggatgt 180
caaatggctt tgccttctgc agacttcatt tattttaatc tttttatggc tcctttctct 240
tgctttaaaa caggattata agcacacagc aggtactgac acctgaagtc ttactaaatt 300
cctgtcctca ggccatcctt tttctcctga aacctggact ccaattttca atgacgtttt 360
tgtttttctc tttcaagcct aactatggga cagctttacg agaaggaaaa agatgaagat 420
ggattcttat atgtggccta cagcggagag aacacttttg gcttctgagg gccattgctg 480
ggctaggtgc accgtaactg cttgtgtatc ttgtaaatag ccagccattt tcagttatta 540

taccagaacc tcttcacata gacccattag tgcatttgta actggattta tttcttaata 600
tatgggaagg tttggttgcc ttagactagt aaattatcat acagagttta tttagagttt 660
tcttttggtg catggtctca tgctgtattc tcaggaaaat tgttctcggg aaatcatttg 720
aatgatttct atatgaagga ggaggtggga taagggaagg agggtgatta tcnnn 775

<210> 750
<211> 927
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(927)
<223> n = A,T,C or G

<400> 750
nnnnnnccct aggtgtttca caccccttgtg aggcggcccc ttactttccc tccggttttt 60
cccccgccag gtgctttccc gggtgaccca ggccagcatg gttaacagcc attcttacag 120
gaaccaaaca ctaccgggtg cctataatta gaagtctcac tgagcacata ggccgccaag 180
accgggcaac ctgaagtgac tgctcccagg tcagtggaga atggacctgc tgcaccgata 240
cccagtatag gtcgtgataa aatgcccttg acacaggctt gtaaagtcac caagcttttc 300
tgaaatgaca gccattgaac tcctagggtc tgagacctgt gctgcttggt gcacccagtg 360
tgagtcatga aaggccctct gtggtgggca tcacaggtct ccttgagttt attgctgtgc 420
aaagtggagg actttagttt ctttttcaac atcaagctgt gctcctctcc agctctgtct 480
tggcagctgt ccttggaacc gattttcctt ttcttggagt ttccctcatg tgagctcgac 540
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tgtttgaatt gtctcttctt atctgagccc ttttctgtaa aggagatccc ttttcttacc 660
cttcctcggt catcctggga gctccacttt cctctgtaga atttattcag cctccttagt 720
aaacatggac ttggtcccaa acaggtaacc caactgacca caagaaaagc agcctagatc 780
ctgagcattc agctcctgtc ttcacacaac agacaccacc tcagtcccat caaagcctgt 840
gaagtttccc tacatccacc attgagacat attccagagc agcctctcaa aattgcctta 900
acaggatggg acacgatann nnnnnnn 927

<210> 751
<211> 927
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(927)
<223> n = A,T,C or G

<400> 751
nnnnnnccct aggtgtttca caccccttgtg aggcggcccc ttactttccc tccggttttt 60
cccccgccag gtgctttccc gggtgaccca ggccagcatg gttaacagcc attcttacag 120
gaaccaaaca ctaccgggtg cctataatta gaagtctcac tgagcacata ggccgccaag 180
accgggcaac ctgaagtgac tgctcccagg tcagtggaga atggacctgc tgcaccgata 240
cccagtatag gtcgtgataa aatgcccttg acacaggctt gtaaagtcac caagcttttc 300
tgaaatgaca gccattgaac tcctagggtc tgagacctgt gctgcttggt gcacccagtg 360
tgagtcatga aaggccctct gtggtgggca tcacaggtct ccttgagttt attgctgtgc 420
aaagtggagg actttagttt ctttttcaac atcaagctgt gctcctctcc agctctgtct 480
tggcagctgt ccttggaacc gattttcctt ttcttggagt ttccctcatg tgagctcgac 540
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tgtttgaatt gtctcttctt atctgagccc ttttctgtaa aggagatccc ttttcttacc 660
cttcctcggt catcctggga gctccacttt cctctgtaga atttattcag cctccttagt 720
aaacatggac ttggtcccaa acaggtaacc caactgacca caagaaaagc agcctagatc 780
ctgagcattc agctcctgtc ttcacacaac agacaccacc tcagtcccat caaagcctgt 840
gaagtttccc tacatccacc attgagacat attccagagc agcctctcaa aattgcctta 900
acaggatggg acacgatann nnnnnnn 927

<210> 752
<211> 415
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(415)
<223> n = A,T,C or G

<400> 752
nnnnnccgcc cgggcaggta ctccagcctg ggtgacagag cgagaccctg cctctaaaat 60
aaaaggctgc acaacactca actacgtcag taaaaagaca gggtcaagga gcaataagtg 120
atgcttggac aatcatggga gatacacagg agtcaggctg cctgctcagc gaaccactca 180
ttccaacatc cagacagcgg tcaaagatac acctgcagat gcccatcagg aaatgtgaat 240
gagtgagctg aagaggcaat gggggtagtg tcacctgtgg caaactagag aatgcttatc 300
tattttaaag gggcaaccc agctgactat tattgccaag tggcaattca aacccaatac 360
tgccaagttt tctgattcta attgaaatca gagaaaaaga aaacctacaa aacag 415

<210> 753
<211> 643
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(643)
<223> n = A,T,C or G

<400> 753
nnnnnnggcg gccgaggtac attgaaagcc atgttccctt gtagaaagaa aaatgctgtt 60
gccttttggg ttgattctat tatctgatgt tttattaatc tctgtgaaat aattgtgtaa 120
attaatatag agactagttg agaaatggtg gataacatga agaagatacc catttttgca 180
tagattagat gtgatcaacc tcacactatc atatgaaagt tggctgcatt ggagagacag 240
gaattaatat taaaaatgtt ttcagttcag attgatatct tacatttcca aatattattt 300
tcttttgaat atgtggtata agtaatctgc tttaagtcct attttaggtt gggtgcagtg 360
gctcgcacct gtaatcccac cattttggga ggttgagacc aggagtttga gaccagcctg 420
ggcaacagag tgagacccca tctttataga aaataaaaaa ttagccaggc atgatggcac 480
gtgcctgtag tcctaactac ttggaggctg agaagggagg atagcttggg cctgggaggt 540
tgaggctgca gtgagctgtg atcacaccac tgcactacag gctggacaat ggagcaagac 600
tctatctcta gaacataaaa agacctgttt taaactgatg ann 643

<210> 754
<211> 530
<212> DNA
<213> Homo sapiens

<400> 754
cctgatggaa gagagggctg tgtgtcacag ggattcccaa gccactaaag cacattccca 60
ggaccatatc atcgggagca tcattgctgt agcatcgaca tttactggcg agaagtctcc 120
tgacggcttc tctgctgaag accattcctc ctcctcccgt gatgtagctg tagccaccag 180
tgcccaggcc gtagccgtag cgctctccca gaaacacagg cttgccggag tcataacagc 240
taagcaagtg ctggagcctg gagatactta ttaatgtatc atcatccaca atgactaacc 300
atgctgtttt gtcctggcta cgattcagaa atctttccaa aatggcaaat gtctttccac 360
aatgacctct atctgtatta ggaattccca aatccacagt aggaatggaa ttttcagtat 420
agtcactata gtattcaatg agacttgcct ggctctccca agtctgctta acaataggta 480
ttctgtcacc atgaaatttc ttgcatgttt ttactgcaac aaaaatatcc 530

<210> 755
<211> 1040
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1040)
<223> n = A,T,C or G

<400> 755
gcgtccgccc acgcgtccgg gggccagggc gcgtcggagc cgctgagaaa gcgcagagaa 60
ggcgggcccc gtctgaggtc tggcagtcag agacagccgg gcgcccacgg cccgagcgcc 120
cacggcagca ccatgcccgc actcctggag cgcccccaagc tttccaacgc catggccagg 180
gcgctgcacc ggcacattat gatggagcgg gagcgcaagc ggcagggtga gccggggcca 240
tagcaggggg acgcacggcc cagaatggct cctgtacctc aaggctggcc tcaacccacc 300
ggccaaccag cgcgcccgct gccgagcgca gaggagggaa ggaatagccc cgttgtggtg 360
ggatttaagc gtcctgttcc acgctccaga acccttgaga tgggaaggac cttggagagc 420
acctgataaa gcctttccgt tccctattgc cgcgatgggg agcttgtccc ctcgaggcaa 480
agagcataca ggcgtgttgg gatgactggg ttttgctggt cttcaatctg taacgttgga 540
attgttttca ctaccctgcc tcttcttcat tctgcctgat tctccagagg aagaagaggt 600
ggataagatg atggaacaga agatgaagga agaacaggag agaaggaaga aaaaggagat 660
ggaagagaga atgtcattag aggagaccaa ggaacaaatt ctgaagttgg aggagaagct 720
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aagaaaccac cagatggaac cggccttctt ggaggtcaca gcctcccatt tcagcatcat 960
gaagcccttc tccctttcta gggagccctg gaggacacaa ttcgccaggc accctcatgg 1020
cagctgacag annnnnnnnn 1040

<210> 756
<211> 1873
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1873)
<223> n = A,T,C or G

<400> 756
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gacttgggta gaagtgcaga gccacaggaa ttgctttcct tccccgcctt tgacatgagg 120
ccttcagtaa agagctacag aacatgagta cattgttata ccacagattt ttcttgcatt 180
agggcacagt gttaaatttt ttggaggtaa atatactatt tataatcact atatatagta 240
ggagggggta tgtgtctcag gcttttctga agttgcaaga cttaaagaaa taatccatct 300
gcatcccaag tcctatttta taaggatatt cataaaaatt ccatggtgaa tccttgtctg 360
aaataggtcc tcccttccca gtttctgtgt aagtctttgc atttaagaca tccaatcaat 420
aatgaaggaa attttttct gaatgtaggt ttgagtgagg ggcacctctg ctttccctta 480
gcaaccctca tatacctccc tgcaccgtta cgctgtgatg gcaactgggg atagaaaaaa 540
aatggggaaa gacaggaatc ctaaaaggga gagttattac tggccacaag ccctgtattc 600
tcaacaggga tgcaaattgg ttcttcagta aggataaaaa aaaatcacaa gcagttgttt 660
gtggccctcc taaggcccac agcacatata gtgtgtctgt gatattccat tttcatggca 720
gggagtgatc aggaagaagg cttcctaggg gactggcgat ttaaaccagt tgagaaacac 780
tgccatcagc aggcagtttc agactcactc aagttgtctc ttgacagtca cttctaaatg 840
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ttagatttta gaaggacagt ggggctgtac ctagaatagt ggttctcgaa gaatgcggcc 960
tgcagatcct gggagtccca agaccctttc agggaggatc tgtgaggtca actgttggca 1020
ctgtggcatg aatcaaggtg gtggcagcaa acttctagta gttttgatat gtccttgata 1080
gaacaaatag caatggttaa ctattaaatg ttgacctagc cagcgcagtg gctcatgcct 1140
gtaatcccag cactttggga ggctgaggcg ggcggatcac ctgaggtcgg gagttcgagg 1200
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ccggtaggtg gaggttgcag tgagccgaga tcataccatt gcactccagc ccaggcaaca 1380

agagtgaaac cctgtctcaa aaagaaaaaa aaagttgacc ttgagaattt ataatattct 1440
gagaaaactg gaagcatgca taaagcccct ctgctgtgca ctgaagtatg ggtgccttga 1500
ggaaaagcag ttacacagtt gagttgcaag ctgaattggc tgtgttcaag gcatgccctt 1560
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taaagctttc aagcaaaaat tggaatttcc gaaaattgta tccacatgag cttattgttg 1740
ggatattaac aagtgatttg ttaagaaatg tttctggaag aattcaagac cattcaggga 1800
cagtgtgtgt ttcaattgcg tgtagtgttc aaggtaaagg cggttagtta aacaaaggaa 1860
aggagacgnn nnn 1873

<210> 757
<211> 1873
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1873)
<223> n = A,T,C or G

<400> 757
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gacttgggta gaagtgcaga gccacaggaa ttgctttcct tccccgcctt tgacatgagg 120
ccttcagtaa agagctacag aacatgagta cattgttata ccacagattt ttcttgcatt 180
agggcacagt gttaaatttt ttggaggtaa atatactatt tataatcact atatatagta 240
ggaggggggta tgtgtctcag gcttttctga agttgcaaga cttaaagaaa taatccatct 300
gcatcccaag tcctatttta taaggatatt cataaaaatt ccatggtgaa tccttgtctg 360
aaataggtcc tcccttccca gtttctgtgt aagtctttgc atttaagaca tccaatcaat 420
aatgaaggaa atttttttct gaatgtaggt ttgagtgagg ggcacctctg ctttccctta 480
gcaaccctca tatacctccc tgcaccgtta cgctgtgatg gcaactgggg atagaaaaaa 540
aatggggaaa gacaggaatc ctaaaaggga gagttattac tggccacaag ccctgtattc 600
tcaacaggga tgcaaattgg ttcttcagta aggataaaaa aaaatcacaa gcagttgttt 660
gtggccctcc taaggcccac agcacatata gtgtgtctgt gatattccat tttcatggca 720
gggagtgatc aggaagaagg cttcctaggg gactggcgat ttaaaccagt tgagaaacac 780
tgccatcagc aggcagtttc agactcactc aagttgtctc ttgacagtca cttctaaatg 840
ggttctaatg tgacaatggc ctccaaaact acagccttcc ctgaagttta agctgtgacc 900
ttagatttta gaaggacagt ggggctgtac ctagaatagt ggttctcgaa gaatgcggcc 960
tgcagatcct gggagtccca agaccctttc agggaggatc tgtgaggtca actgttggca 1020
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ccagcctgac caacatggag aaaccccgtc tcttctaaaa atacaaaatt agctgggcat 1260
ggtggtgcat gcctgtaatt ccagctactc gggaggctga ggcaagagaa tcgcttgaat 1320
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agagtgaaac cctgtctcaa aaagaaaaaa aaagttgacc ttgagaattt ataatattct 1440
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ggaaaagcag ttacacagtt gagttgcaag ctgaattggc tgtgttcaag gcatgccctt 1560
tagaattgaa agaactagca gattacggta tttagacttg aatatttggc tgatattttc 1620
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taaagctttc aagcaaaaat tggaatttcc gaaaattgta tccacatgag cttattgttg 1740
ggatattaac aagtgatttg ttaagaaatg tttctggaag aattcaagac cattcaggga 1800
cagtgtgtgt ttcaattgcg tgtagtgttc aaggtaaagg cggttagtta aacaaaggaa 1860
aggagacgnn nnn 1873

<210> 758
<211> 2293
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(2293)
<223> n = A,T,C or G

<400> 758
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tcatgagtgg ggcgaataca cagagcaact ggctctttgg gtggttatgt cacgtggcct 120
gcaagttaac gttggcttcc tggtcagcca ggccttaggc tggtgaaaag aggaaacaaa 180
gaggatgtga acgaagacaa agaagacatc ggagggctcc ttttaggaga tttgcttgaa 240
ggcctccgcg gggatcttgc cctcggtctg gagcatagtg aaggcctggc cagctctagt 300
gtagttccac tcattgtcct gaaggcactt ctgagaccac tccagtttca tcccagactg 360
ggcagagaaa gcctgcacca tttcctgctg ctcctgggag agggagggct cagagctgga 420
ggagagtgtg gacactggga tggagaaggc actctgagtc tcttgggggc tggcatccct 480
cacaaacagc tcgtcattca cgatgcacag actggaactg ctgccagggg tagcaatgaa 540
ggtccgggtg aaggcgagaa cagaaccctg agactgtcct tccacttcct tgaaaacccc 600
attgacagaa aagcagagca tcctttccgt ctggcaccac acgtccacca ggatggagct 660
gaggtcatgc tgagttttgg gcaacgcact gagggagtcc acaatgtcac gttttgtgcg 720
cctcagcagt tccccccttca ggtaggggtc cttgagtgtt ttcatattcc tgctatcctc 780
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cgagtaatac tgctgcagga attgcaggac taaatgcttt agggtctcag atccagtaaa 960
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cagggtcttg actttgggag ccttctctgt aatgtcagaa aggccatcca gctggtacag 1260
cttgttgttg cacaagttca aagacaacag ctcagggaaa tttctttcaa tgatcttcag 1320
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cgcagtagaa tgattgacaa atatacatat cttttggttc tcatcatcat aaatcttata 1560
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tcggacgtag tggaaatcaa ccggagtgaa gcggtcactg caatggctct ggattgaatt 1680
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acattttgtt gttgctttgt cctgacacta cagtctcaca gaacgaactt ggaaatgcgg 2160
actggtatct ccataagtgt cagggctgtg gaagaccaat aaagattgag gaaatgtcag 2220
cctggaggag actaaggaga aatgaagacc aaatgcaatg aagcgtcctg gataagatcc 2280
taattggaag aan 2293

<210> 759
<211> 2293
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2293)
<223> n = A,T,C or G

<400> 759
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tcatgagtgg ggcgaataca cagagcaact ggctctttgg gtggttatgt cacgtggcct 120
gcaagttaac gttggcttcc tggtcagcca ggccttaggc tggtgaaaag aggaaacaaa 180
gaggatgtga acgaagacaa agaagacatc ggagggctcc ttttaggaga tttgcttgaa 240
ggcctccgcg gggatcttgc cctcggtctg gagcatagtg aaggcctggc cagctctagt 300
gtagttccac tcattgtcct gaaggcactt ctgagaccac tccagtttca tcccagactg 360

ggcagagaaa gcctgcacca tttcctgctg ctcctgggag agggagggct cagagctgga 420
ggagagtgtg gacactggga tggagaaggc actctgagtc tcttgggggc tggcatccct 480
cacaaacagc tcgtcattca cgatgcacag actggaactg ctgccagggg tagcaatgaa 540
ggtccgggtg aaggcgagaa cagaaccctg agactgtcct tccacttcct tgaaaacccc 600
attgacagaa aagcagagca tcctttccgt ctggcaccac acgtccacca ggatggagct 660
gaggtcatgc tgagttttgg gcaacgcact gagggagtcc acaatgtcac gttttgtgcg 720
cctcagcagt tccccccttca ggtaggggtc cttgagtgtt ttcatattcc tgctatcctc 780
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ggcggactgg tccgagaagg tgctgcacaa cgggttccct tctagccata gctcttcgag 1140
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cagggtcttg actttgggag ccttctctgt aatgtcagaa aggccatcca gctggtacag 1260
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cgcagtagaa tgattgacaa atatacatat cttttggttc tcatcatcat aaatcttata 1560
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cttgtcaaaa ttatcccgga aagaactccc acctttcttt cttgccttga aaagtgctac 2040
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cctggaggag actaaggaga aatgaagacc aaatgcaatg aagcgtcctg gataagatcc 2280
taattggaag aan 2293

<210> 760
<211> 2293
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2293)
<223> n = A,T,C or G

<400> 760
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tcatgagtgg ggcgaataca cagagcaact ggctctttgg gtggttatgt cacgtggcct 120
gcaagttaac gttggcttcc tggtcagcca ggccttaggc tggtgaaaag aggaaacaaa 180
gaggatgtga acgaagacaa agaagacatc ggagggctcc ttttaggaga tttgcttgaa 240
ggcctccgcg gggatcttgc cctcggtctg gagcatagtg aaggcctggc cagctctagt 300
gtagttccac tcattgtcct gaaggcactt ctgagaccac tccagtttca tcccagactg 360
ggcagagaaa gcctgcacca tttcctgctg ctcctgggag agggagggct cagagctgga 420
ggagagtgtg gacactggga tggagaaggc actctgagtc tcttgggggc tggcatccct 480
cacaaacagc tcgtcattca cgatgcacag actggaactg ctgccagggg tagcaatgaa 540
ggtccgggtg aaggcgagaa cagaaccctg agactgtcct tccacttcct tgaaaacccc 600
attgacagaa aagcagagca tcctttccgt ctggcaccac acgtccacca ggatggagct 660
gaggtcatgc tgagttttgg gcaacgcact gagggagtcc acaatgtcac gttttgtgcg 720
cctcagcagt tccccccttca ggtaggggtc cttgagtgtt ttcatattcc tgctatcctc 780
aaagtacttg cacaagctgc tcggggctga gtccttgggg tcgaagggaa tagccaagga 840
gaagcaggcc tcatcgtggt aagcaccgag gagaccctgt cgatctccag agtcatagat 900
cgagtaatac tgctgcagga attgcaggac taaatgcttt agggtctcag atccagtaaa 960

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ggcggactgg tccgagaagg tgctgcacaa cgggttccct tctagccata gctcttcgag 1140
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cagggtcttg actttgggag ccttctctgt aatgtcagaa aggccatcca gctggtacag 1260
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cattagccat gccttgtcat actttatccc gtaaggaatt gtgaccttaa accagttcct 1740
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agtctcctgg cagtgtgaag gcgggcgctc atacccacca tgttcataat gacagctcct 1980
cttgtcaaaa ttatcccgga aagaactccc acctttcttt cttgccttga aaagtgctac 2040
catggtcatg gcattctgca acttcagttc tgtatgtccc acacttcttt agagtagagc 2100
acattttgtt gttgctttgt cctgacacta cagtctcaca gaacgaactt ggaaatgcgg 2160
actggtatct ccataagtgt cagggctgtg gaagaccaat aaagattgag gaaatgtcag 2220
cctggaggag actaaggaga aatgaagacc aaatgcaatg aagcgtcctg gataagatcc 2280
taattggaag aan 2293

<210> 761
<211> 2293
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2293)
<223> n = A,T,C or G

<400> 761
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tcatgagtgg ggcgaataca cagagcaact ggctctttgg gtggttatgt cacgtggcct 120
gcaagttaac gttggcttcc tggtcagcca ggccttaggc tggtgaaaag aggaaacaaa 180
gaggatgtga acgaagacaa agaagacatc ggagggctcc ttttaggaga tttgcttgaa 240
ggcctccgcg gggatcttgc cctcggtctg gagcatagtg aaggcctggc cagctctagt 300
gtagttccac tcattgtcct gaaggcactt ctgagaccac tccagtttca tcccagactg 360
ggcagagaaa gcctgcacca tttcctgctg ctcctgggag agggagggct cagagctgga 420
ggagagtgtg gacactggga tggagaaggc actctgagtc tcttgggggc tggcatccct 480
cacaaacagc tcgtcattca cgatgcacag actggaactg ctgccagggg tagcaatgaa 540
ggtccgggtg aaggcgagaa cagaaccctg agactgtcct tccacttcct tgaaaacccc 600
attgacagaa aagcagagca tcctttccgt ctggcaccac acgtccacca ggatggagct 660
gaggtcatgc tgagttttgg gcaacgcact gagggagtcc acaatgtcac gttttgtgcg 720
cctcagcagt tccccttca ggtaggggtc cttgagtgtt ttcatattcc tgctatcctc 780
aaagtacttg cacaagctgc tcggggctga gtccttgggg tcgaagggaa tagccaagga 840
gaagcaggcc tcatcgtggt aagcaccgag gagaccctgt cgatctccag agtcatagat 900
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cattagccat gccttgtcat actttatccc gtaaggaatt gtgaccttaa accagttcct 1740
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acattttgtt gttgctttgt cctgacacta cagtctcaca gaacgaactt ggaaatgcgg 2160
actggtatct ccataagtgt cagggctgtg gaagaccaat aaagattgag gaaatgtcag 2220
cctggaggag actaaggaga aatgaagacc aaatgcaatg aagcgtcctg gataagatcc 2280
taattggaag aan 2293

<210> 762
<211> 3746
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3746)
<223> n = A,T,C or G

<400> 762
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agcctcacct cttgtcccct gtgcagtgtg gaggtcatcc gtctgggcca cagctacttc 120
atcaactggg ataagaagat gttctgcatg aagaagcgga cgcctgcaga agcccgcacc 180
accaccctaa acgaggagct gggccaggtg gagtacatct tctccgacaa gacgggcacc 240
ctcacccaga acatcatggt tttcaacaag tgctccatca atggccacag ctatggtgat 300
gtgtttgacg tcctgggaca caaagctgaa ttgggagaga ggcctgaacc tgttgacttc 360
tccttcaatc ctctggctga caagaagttc ttattttggg accccagcct gctggaggct 420
gtcaagatcg gggaccccca cacgcatgag ttcttccgcc tcctttccct gtgtcatact 480
gccaagtcag aagaaaagaa cgaacgagag aggtactaca aagctcagtc cccagatgag 540
ggggccctgg tcaccgcagc caggaacttt ggttttgttt tccgctctcg cacccccaaa 600
acaatcaccg tccatgagat gggcacagcc atcacctacc agctgctggc catcctggac 660
ttcaacaaca tccgcaagcg gatgtcggtc atagtgcgga atccagaggg gaagatccga 720
ctctactgca aaggggctga cactatccta ctggacagac tgcaccactc cactcaagag 780
ctgctcaaca ccaccatgga ccaccttaat gagtacgcag ggaaagggct gaggaccctg 840
gtgctggcct acaaggatct ggatgaagag tactacgagg agtgggctga gcgacgcctc 900
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<210> 763
<211> 450
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(450)
<223> n = A,T,C or G

<400> 763
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ttgttttccg ctctcgcacc cccaaaacaa tcaccgtcca tgagatgggc acagccatca 120
cctaccagct gctggccatc ctggacttca acaacatccg caagcggatg tcggtcatag 180
tgcggaatcc agaggggaag atccgactct actgcaaagg ggctgacact atcctactgg 240
acagactgca ccactccact caagagctgc tcaacaccac catggaccac cttaatgagt 300
acaagcnnnn nttnntnttn nttttttttt ttttntccct ttattttgca tactttaatt 360
tcagaacaaa atgaagaaaa taaaataaac cacaatacac aacatccaat cctgctgtca 420
agagtagaga gggaatgggg cttgacannn 450

<210> 764
<211> 2293
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2293)
<223> n = A,T,C or G

<400> 764
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tcatgagtgg ggcgaataca cagagcaact ggctctttgg gtggttatgt cacgtggcct 120

gcaagttaac gttggcttcc tggtcagcca ggccttaggc tggtgaaaag aggaaacaaa 180
gaggatgtga acgaagacaa agaagacatc ggagggctcc ttttaggaga tttgcttgaa 240
ggcctccgcg gggatcttgc cctcggtctg gagcatagtg aaggcctggc cagctctagt 300
gtagttccac tcattgtcct gaaggcactt ctgagaccac tccagtttca tcccagactg 360
ggcagagaaa gcctgcacca tttcctgctg ctcctgggag agggagggct cagagctgga 420
ggagagtgtg gacactggga tggagaaggc actctgagtc tcttgggggc tggcatccct 480
cacaaacagc tcgtcattca cgatgcacag actggaactg ctgccagggg tagcaatgaa 540
ggtccgggtg aaggcgagaa cagaaccctg agactgtcct tccacttcct tgaaaacccc 600
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gaggtcatgc tgagttttgg gcaacgcact gagggagtcc acaatgtcac gttttgtgcg 720
cctcagcagt tccccccttca ggtaggggtc cttgagtgtt ttcatattcc tgctatcctc 780
aaagtacttg cacaagctgc tcggggctga gtccttgggg tcgaagggaa tagccaagga 840
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agtctcctgg cagtgtgaag gcgggcgctc atacccacca tgttcataat gacagctcct 1980
cttgtcaaaa ttatcccgga aagaactccc acctttcttt cttgccttga aaagtgctac 2040
catggtcatg gcattctgca acttcagttc tgtatgtccc acacttcttt agagtagagc 2100
acattttgtt gttgctttgt cctgacacta cagtctcaca gaacgaactt ggaaatgcgg 2160
actggtatct ccataagtgt cagggctgtg gaagaccaat aaagattgag gaaatgtcag 2220
cctggaggag actaaggaga aatgaagacc aaatgcaatg aagcgtcctg gataagatcc 2280
taattggaag aan 2293

<210> 765
<211> 2427
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2427)
<223> n = A,T,C or G

<400> 765
nnnnnnnccg ggagaaaaag ggccaaaaaa acgtccatgg gccaaagggc cacactaagg 60
aagggcgaaa aaaaagtctc gtctgtcttt tggtgtcctc tctgttcact tatcctgtgg 120
gttaagtgtc cctcgtttgg ctccacacca ggagtttttg tgtctcttat aggacccgct 180
tagcgactct gggagtgttt ggtgtccccc ccctttgtt gatgcaccga aggggtgttg 240
gaaccctggg gatttgagcc tcttcacaag ggcctgttgc cctcttggtc cacccggtat 300
caggcaaaac accctctgtg cgcggcaatt tctttaccgg cctgatcctg cttcattcga 360
attattggat ctgcgccttg taccagaaat accctcgctg taggggcctc gaatggttcg 420
tgaactcttt gaaatggccc gacacctaat tagcctgcct tatcttcttt gatgaaattg 480
atgctattgg agggctcctt ttgatgatgg tcctggaggt gcaccaatga agtcccgaga 540
caccaatgtt ggaactgatc catcagcttg atggttttga tcctcgaggc caatattaaa 600
gtgctgatgg cccctaacag acctgatact ttggatcccg ccctgatgag gcccgggaga 660
ttggatagaa aaattgaatt tagcttgccc gatctagagg gtcggaccca catatttaag 720

attcacgctc gttcaatgag tgttgaaaga gatatcagat ttgaactgtt agcacgactg 780
tgtccaaata gcactggtgc tgagattaga agcgtctgca cagaggctgg tatgtttgcc 840
atcagagcac ggcgaaaaat tgctaccgag aaggatttct tggaagctgt aaataaggtc 900
attaagtctt atgccaaatt cagtgctact cctcgttaca tgacatacaa ctgaaccctg 960
aaggctttca agtgaaaact ttaaattgga atcctaacct tatatagact tgttaataac 1020
caattcataa acaaataaat ggcttcaaaa ttgtatgctt ttttccatat ctcttcttgt 1080
aatataataa aaggtgattt ctaatgttat taggcagaaa agcttgttag aatatatttt 1140
gactattttt ttgacccaca cccgtttaag gatttcacat catacaaagc gcttgcttag 1200
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ctcccatctg tccactgagg aagattatca aatggatctt catccaatgg atgcataaac 1320
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cctatgctcc tattatccgc ttctgtcccg caacaaagta gctcacttag gcgtatgacc 1440
acatgcatta tgatagtttc ccaccaccat attgaataat aaaagctttg gccaaagctt 1500
ttttaaagta ggagaaacat tggatgtata tgttttgcat tgccatttga tttcaaatta 1560
atcaggaaga attagtgatt ttaatgagca gtaaagtggt gcaataaagc agaaagaaaa 1620
atgttcagcc agaagtgaaa gactagtaaa aaaagaaaaa aaaatatttg tacatatgat 1680
ctaatttaga aagtccagaa ttggttcata cagaaaagtg attactttca ttttacaaat 1740
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cattcttgat ttttcatttt tatgaacttg atcagaaaaa ttcatctttt ttaaccctgc 2160
cctaattttt cttgaggaat taaatagagc aaactatttt caggttatgc ttacaataaa 2220
atatacttaa gaaaatgact gaagatgtat gtttttgaat gttttgatta aataaatgta 2280
cacatttaaa aataaaaaaa aagacgaaaa aaaaaggggg gggaaaatcg agggacagcc 2340
cggttttagg cccttagaga taaaggcggg aggagaaaac ggtggagacc gtgggggccc 2400
aggaaatgtt ctgcgttgtg cttcagn 2427

<210> 766
<211> 423
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(423)
<223> n = A,T,C or G

<400> 766
gggcgaattg gagctccccg cggtggcggc cgaggtactc ctcagggtct tttcagagat 60
gccctcgata aatttcaaga cagctttggc ctggtctaga gtcttacagc agtccaccaa 120
cacacccaca ggctgggtgt cctgcaagct ctccttcaac tccctcagct ccagatcaga 180
aggaccaaga ctctcatccg gagtctgggg aggcagggcc tccatggtgg caacgtggga 240
ggagatgggc aggatgttga gctggtcatc aatgacgaga cacttcttac aagaggccag 300
agacagaata aacctttcat taaatcttcc caccacatcc tgatgggcct cagttctgta 360
cctggaatgc acatccatag tcactgtgta caattgcttg agtgagttca tggtccgtan 420
nnn 423

<210> 767
<211> 1139
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1139)
<223> n = A,T,C or G

<400> 767

nnnatctgta aagagtacaa tgcgtgtggg ccacccggtc ccaacatttt ctgtgtaccc 60
ccgtttttcc tccatagcct tccaggtgcc agcgccccgg gtttcgcccc ctcttgtttg 120
ttcttttttt ggagttcgcc taccttatca gggatgaaaa acagttgaaa catactgccg 180
cagatttcac tgtgccggcc tataaaggaa acaaccctgt tgaagctgtg gagtttttta 240
cgaagacccc ttactataat tggtcactac ctccgtatca gtcacgataa cagcagtaga 300
tatccccggg ttagcatcca gagctgagtg ccccaaggaa gacagaggca atggcagaat 360
aatatgctga gaaaggactc ttaagagcaa tacaaagaga acagacaaaa atctcaccac 420
aaaattgtac ctgagtgaca gattggtaaa gtgttttact tttttttttt cttttcgctc 480
tttggtctga caagaaaaga gttttaggtg tgtgaagtag ggtgggaaaa aaggtcagtt 540
tcaaattcag taacatatgg taacactaag ttaggctgct gcattctttt ctttgggtac 600
ttaagccagc tggcacttcc actttgtaac caattatatt atgatcaaca actaatcagt 660
tagttcctca gcttcaactg aagagttcct gattacctga tgaaggacat acttgctctg 720
gcttcaatta gcatgctgtc aagcatccct ctccatgctt aacatggcaa cacaaaaccc 780
aagagtcctt ctcttttttt cattagccat gaataaacac tcacaaaggg gaagagtaga 840
cactgctttt agtaaacgtc ctttttcttt acctcccttt tccaatgcca agttcatatg 900
aaaaacttta gaaacattaa aatggagaac tctctcaccc aaaaagtaat tctcattcca 960
gactactcta tcaggcagga ttactgtacc gtgcttgttt caaactcaca tccacggagg 1020
gataaaaaga caaaataaaa cttgacagtg tgatacaaca tgaaaatctc ctaaaccatc 1080
aggagcaaac actcagttaa aagctgggtg ttaacaagcg gacgcgtggg cggacgcgn 1139

<210> 768
<211> 675
<212> DNA
<213> Homo sapiens

<400> 768
ggggcggccg aggtaccaga acttctatgc acacctccct gagagtctgg gaaccttcac 60
cgctgacctg tgtgagatgt tcccagcagg catttatgac accaaatatg ctgctgagtt 120
tcatgcccgt ttcgtggcct cctacttaga atatgccttc cggaaatgtg aacgggaaaa 180
tgggaagcag cgggcagctg gcagcccaca ccttaccctg gagttctgca actatccttc 240
cagcatgagg gaccatattg attaccgctg ctgcctgccc ccagcaaccc accgtcctca 300
tcccaccagc atctgtgaca acttctcggc ttatggctgg tgccccctgg gaccacagtg 360
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gcggcgacgg cgacgacgta gggaaaaacg gaagagggct ttattgaacc taccggggac 480
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caagcctgaa gaaaccgagc aggaggtggc tgccgatgaa actaggaacc tgcctcactc 600
caagcaaggc aacaaaaatg acttagagat ggggattaag gcagcaaggc ctgaaatagc 660
tgatagagct acctc 675

<210> 769
<211> 1516
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1516)
<223> n = A,T,C or G

<400> 769
nnnnaaacca acagcagtcc aagctcagtc agcagaagag ataaaagcaa acaggtctgg 60
gaggcagttc tgttgccact ctctctcctg tcaatgatgg atctcagaaa taccccagcc 120
aaatctctgg acaagttcat tgaagactat ctcttgccag acacgtgttt ccgcatgcaa 180
atcaaccatg ccattgacat catctgtggg ttcctgaagg aaaggtgctt ccgaggtagc 240
tcctaccctg tgtgtgtgtc caaggtggta aagggtggct cctcaggcaa gggcaccacc 300
ctcagaggcc gatctgacgc tgacctggtt gtcttcctca gtcctctcac cacttttcag 360
gatcagttaa atcgccgggg agagttcatc caggaaatta ggagacagct ggaagcctgt 420
caaagagaga gagcattttc cgtgaagttt gaggtccagg ctccacgctg gggcaacccc 480
cgtgcgctca gcttcgtact gagttcgctc cagctcgggg agggggtgga gttcgatgtg 540
ctgcctgcct ttgatgccct gggtcagttg actggcagct ataaacctaa cccccaaatc 600
tatgtcaagc tcatcgagga gtgcaccgac ctgcagaaag agggcgagtt ctccacctgc 660

ttcacagaac tacagagaga cttcctgaag cagcgcccca ccaagctcaa gagcctcatc 720
cgcctagtca agcactggta ccaaaattgt aagaagaagc ttgggaagct gccacctcag 780
tatgccctgg agctcctgac ggtctatgct tgggagcgag ggagcatgaa aacacatttc 840
aacacagccc agggatttcg gacggtcttg gaattagtca taaactacca gcaactctgc 900
atctactgga caaagtatta tgactttaaa aaccccatta ttgaaaagta cctgagaagg 960
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ccatgcttta agaattggga tgggtcccca gtgagctcct ggattctgct ggtgagacct 1140
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nnnnnnnnnn nnnnnn 1516

<210> 770
<211> 727
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(727)
<223> n = A,T,C or G

<400> 770
nnnnnattaa gagctattac aaagttcttt cctctaagta aaaaacccac tagaaaaaga 60
tatttgtaaa aatcattgca gggttactga tactgaatga agcacagggg tactggaaca 120
gggataagtt cttggataag gtgccaacat acctataaaa gctgattttt gagtaaatta 180
ttgattctaa catatgtaat ggatttggtg tgataatttt ctgatcttta actataagtg 240
actttttatt ctccaccaga aaagataaat gactgagaat gtaagtctgc gctctgatta 300
acacaatgga gaaacggaaa aactatctct gttaaaaact gattcctgtc attcttctga 360
tatcaaataa gaggaaggaa aataaacttt ttgtgtgtag atagaaaaac atacctgagg 420
ccaggtgcag tggatcacgc ctgtaatccc agcactttgg gaggccaagg cggcagatc 480
agctgaggtc aggagttcga gaccagcctg gccaacatgg tgaaatcacg tctctactaa 540
aaatacaaaa attatctggg tgtagtggtg cgtgcctgta atcccagcta ctcgggaggc 600
tgaggcagga gaatcacttt aattcaggag gtggagggtt gcagtgagcc gagatcatgc 660
cactgcactc cagcctgggc aacagaggga gactccacct caaaaaaaaa aaagaaaaag 720
tnnnnnn 727

<210> 771
<211> 1721
<212> DNA
<213> Homo sapiens

<400> 771
gcgtccggca gtaagatggt ggggcccagg tcttgggaga cgggcaggat tggggacgag 60
aggcaggaag agacgggtgg ggggcgagga gaaggcaggg gtaggaggca aagggaatct 120
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<210> 776
<211> 374
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(374)
<223> n = A,T,C or G

<400> 776
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aatggcacag cctggcttga agatgaggca ggagtgggaa agtgcccaat ccaagaagca 180
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aaggtcacac aggaaaggcc accagcagga acatcatatt gatgctaatg gccccctccc 300
catttccctg ttgccatctt taccccctgaa ctactgtacc tgcccgggcg gccgctcgat 360
gcgttgcgct cacn 374

<210> 777
<211> 864
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(864)

<223> n = A,T,C or G

<400> 777
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tgttacatcc atttgcattt tgtttttctt cagcaatgtt tggtttttag aaaatcttac 780
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gcaaataaag annnnnnnnn nnnn 864

<210> 778
<211> 956
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(956)
<223> n = A,T,C or G

<400> 778
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gaactctcct cacctctgtg tcttgtgttt tgcagtgatc agggccaaag cggtcagtga 240
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<210> 779
<211> 5465
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(5465)
<223> n = A,T,C or G

<400> 779
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ccatggatgc catcaggttc tctcatgctg gtgaatgcct ctgggagacc tgaggggcag 240
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aacagggcag aactggccat tagtactttc tggcctaact tttatcaggt gatttttgaa 480
gtgataactt ctggacatca aggctatctc gctatcgatg aggtgaaggt gttaggacat 540
ccatgtacca ggactcctca cttcctgcgg attcagaatg tggaagttaa tgctggccag 600
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annnn 5465

<210> 780
<211> 1596
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1596)
<223> n = A,T,C or G

<400> 780
nnacatatat tgtattttta attctctttt gatgtcttct gttttagaag caattctcaa 60
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aaaaaagctg ctgaaccaga ggttcagtat gagaggaatt gcaaagaaca gttttgaaat 180
ctctaggcct tagtcagata gaaattacaa atcaaaaata taatcagact ccctgagaca 240
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atggagaaac cccntctcta cnnnnnnnnn nnnnnn 1596

<210> 781
<211> 1596
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1596)
<223> n = A,T,C or G

<400> 781
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aaaaaagctg ctgaaccaga ggttcagtat gagaggaatt gcaaagaaca gttttgaaat 180
ctctaggcct tagtcagata gaaattacaa atcaaaaata taatcagact ccctgagaca 240
ctaacactag gaaaatgaat aaagttaact tggagcagcc caagaacaaa cttataagtg 300
catgatggta ttttatgtgc aaaactgctt tataagtact ataagactat tacaggtatt 360
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<210> 782
<211> 1325
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1325)
<223> n = A,T,C or G

<400> 782
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ggacagcttt acatgtaaca tgaatctcct cagtatcaca cactgccagg aaacttgggg 180
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tgtcccacca ggcagccccc agttagtctc caaaagaaac ctaccaggtc ccctgcattt 780
catcactgtc attaccccgg aagtcctcga tcaccagaaa aatcaccttc tgtcatctta 840
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ggctcctttt tgaccacagc agctatgcgg aagcagctgc agcttcgata agggccaagg 1260
ggcaattcag atcccagggc ggccgcctaa agcctcacct gtccatcatt actacctgct 1320
taagt 1325

<210> 783
<211> 1842
<212> DNA
<213> Homo sapiens

<400> 783
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ctttgttcac agtcatggca gggggtctgt gtactgagga tgtcttcatg ttaagctcct 180
cttcactatc tgtgcaggat tcacctcgtg ccgaattcgg cacgaggaac tagtctcgag 240
tttttttttt ttttttttta attcttcagc taaaacagcg gaagaggtga tttattatat 300
ggttgttaca ctcggccaca aataaacaca gaaatagtcc agaatgtcac aggtccaggg 360
cagaggaccc aacatgggca ttttgtttat gagcaaggtg ggtctcagag gtgatcggcg 420
atcagagggc gatgaagttc tagatccatt gagacaagct ctagacagta gcatgcagtc 480
ccacaacttg taccagcatc cccagcgtct ggcattccat gtttctgctc ctgtggcctc 540
cacggtgcaa caagctagcg gtttacttgg acctctgcct catctttctt cttttgcgct 600
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gacgcgacaa gaatatgacg ggccgcacag acggcccaaa caggaggaga cacaaaaaaa 1740
gaggaggcac aaccgcggga caaccaccga gaaagaaaga gcccatatgg agctaacacc 1800
acgacatacg acgaaggacg caccgataga gtacttcacc aa 1842

<210> 784
<211> 2113
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2113)
<223> n = A,T,C or G

<400> 784
nngcggtata tgtagggaca atattactat atattgaact gaaagttctt acataatcaa 60
tgtcaagttt tgtcttattt tgttttgttt gtttaaacca gtgtaggaaa taaaagtgat 120
gatatttaaa atagttctca gttgaagcag agaaatgcca ctgtgctagt tgcccaaatg 180
ttgtatctat tttaaatagt ttaagctgat gtgtatggga gcctaaacaa gtgtagtatc 240
ctgaacttct cccattaatt gctattcaca attgggaaaa gtgtggagat tggttcctag 300
tgagttttgt ggcctactcc acatttgttc ttccttcctc agggttagtg atgaaaaaaa 360
gtaaatatct ttttcatatg tccattagaa tgtatgaaaa aaatcatttt aactaaaagc 420
aaaagaattt tatcttatat ctaaaaaata tataacttac tatatgtttc agttgctctc 480
tgaacaaaaa ttatcttcaa tttaatatgt ggaatgtgtt ttctagcttt ctttgaatta 540
tgtatggcaa cctggtttag cactggcatc ctgaacagtt aagagtcact gggaaattat 600
tgtatttctt tataaattta ctgtcatatc aattgctgga aaatgctatg atttttctat 660
tattaccttc taagttgtat tctctcttac actgtagcct caactaaggc aattctgcta 720
tgtttgttct tcactatgat ttactgtgtg ccaaaggagt tttgacaggg tacagagtat 780
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aatgcttaga attctttatt ggtggcccta ctatggtgat gatctagaac tgacttactt 960
caggacagaa gaaaaaacaa tcacaccctt aacctttaag ccagttagat caggggggttg 1020
caacaattgg gttaaacttt gggtatacat tggaagcacc agggcatgtt tgcttttttt 1080
gtttacgtgt ttgcccagcc actcgggagg ctgaggcagg agaatcgctg gaacctggga 1140
tgtggaggtt gcagtgagcc aagattgcac cactgtactc cagcctgggc aacagaggga 1200
gactccatct agactccatc tcannnnnng tatgtcatga ggataaatct ccagggaata 1260
ttctaagcac tagaactaca taagaatgtc ctaaagcact gtatctaagc acttgaaaag 1320
aatgggactt ttcggtttta gggagataac tattagcaac cacacaatat gttatcttta 1380
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gtgtcagttt tcacacagcc tgcacatcgt tctgacatgc ccttttttttc cctggagatt 1500
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gtaaaatatt tcactcaaaa ctactaaaaa aaagtctggg atggcagctc attatcaaat 1740
atactcctat ttttgtggtg atttatgaac atccccacta agtataacta aagatcataa 1800
agagcctcag atcaagtttg gtcaggtttt gtcaccaagc tttgtaaata aactggtttt 1860
catagctttt tggagatgag aattgaggat aagaaattgt gtctctgtcc tttttttttt 1920
tttttgttaa gtcttacatg tattttactg taacatcttt tgaattggat atttaactaa 1980
ttcaacatat ttttcctctt tgcagaatgg gcagttcatg ttaaaatcac ttttcatgga 2040
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aaaaaaaaat aan 2113

<210> 785
<211> 3024
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3024)
<223> n = A,T,C or G

<400> 785
cgcgtccgcg ggaggagccg ggactggagg ctgccgaggg ggccggcgcc cgagtccggg 60
attcggccag tggtgctgag cgagtgctgg accagcggcc gtcctgtgca cctggcctgt 120
gcgcgtgccc gctgctcggc ttcacccaga ctaaggcgcg ggcagctgcg ggaacaggcg 180
gggtgggcgg agggagaccg ggaggcacgg gcgccctgtg cgcggaggag gtgaaggcgg 240
ccggggccgg gacgccatgt ccatggagga ccccttcttt gtggtgaaag gagaggtaca 300

gaaagcagtc aacactgccc agggattgtt tcagagatgg acagagctcc tccaggaccc 360
ctccacagca acaagggaag aaatcgactg gaccaccaac gagctgagaa ataacctccg 420
gagcatagag tgggatctag aggaccttga tgaaaccatc agcatagttg aagcaaatcc 480
tagaaaattt aaccttgatg caactgaatt gagtataaga aaagccttca ttacaagtac 540
tcggcaagtt gtcagggaca tgaaagatca gatgtcaact tcatctgtgc aggcattagc 600
tgaaagaaaa aatagacagg cactgctggg agacagtggc agccagaact ggagcactgg 660
aacaacagat aaatatgggc gtctggaccg agagctccag agagccaatt ctcatttcat 720
tgaggagcag caggcacagc agcagttgat cgtggaacag caggatgagc agttggagct 780
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ggacaacgtg atgaagaaac ttgcaaaagt atctcatatg accagtgatc ggcgccaatg 960
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agctgagcac gtgtgacatt gccgtctact cacattccta tcctggaaac atactgctgc 1140
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agcatttctt atcccctgag agctgatgat tattgaggac agaaggctca gaaacagttt 1560
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taccagattg tcctcattac agttctttta ctcttagggc actctacact ggggggttggg 1980
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ggggggggcca atgaacccgt tttttggaag agggggggccc tagagggcga gtaaaaaaga 2760
aaggagagcg gggcctaaac agccccgtgt ccagcacacc cgcctccgtc ggcaccttgt 2820
gagaggaccc cacctcggcc cggcacaatc cgaccccccac agaaatttag gccggcgaaa 2880
aactggtatg gtggcacccg gctttcgctc gaattgttcg aatttagata acgcgccacg 2940
ccaatacaaa gcatgagaag aaccatcaca aagaatagag tgagatcaac attcacaccc 3000
tacatacaac aaaactaaca nnnn 3024

<210> 786
<211> 1420
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1420)
<223> n = A,T,C or G

<400> 786
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gccccgcacc ccgagacctc agcgcacccc atcgccttgc ttgccagggt ctccgaaagc 120
gctgctggcc cctcttcgcg gccaccccgg cggcctcttt ccgccctctg aaccggcagt 180

tagctggacg ggcctcaagg gcccggcgcc cagggactca aaggaccctc ccgcgccccg 240
cgaggctccg gggtctcggg cttccgcctt cttgctgccc tcgttcttgc cagggccgcg 300
gttagtccct gctggccacc ccactgcgac catgttcgtt ccctgcgggg agtcggcccc 360
cgaccttgcc ggcttcaccc tcctaatgcc agcagtatct gttggaaatg ttggccagct 420
tgcaatggat ctgattattt ctacactgaa tatgtctaag attggttact tctataccga 480
ttgtcttgtg ccaatggttg gaaacaatcc atatgcgacc acagaaggaa attcaacaga 540
acttagcata aatgctgaag tgtattcatt gccttcaaga aagctggtgg ctctacagtt 600
aagatccatt tttattaagt ataaatcaaa gccattctgt gaaaaactgc tttcctgggt 660
gaaaagcagt ggctgtgcca gagtcattgt tctttcaagc agtcattcat atcagcgtaa 720
tgatctgcag cttcgtagta ctcccttccg gtacctactt acaccttcca tgcaaaaaag 780
tgttcaaaat aaaataaaga gccttaactg ggaagaaatg gaaaaaagcc ggtgcattcc 840
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ctatgatgaa agctgttcta aagaaatcca aatggcagtt ctgctgaaat ttgtttcaga 960
aggggacaac atcccagatg cattaggtct tgttgagtat cttaatgagt ggcttcagat 1020
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gggtctcttt gccatgcttt tcatcatatg caccaaatgt aaattttgta caataaaatt 1320
ttatttccta agtaaaaaaa aaaaagaagg gctcgaggcg cgaaatattt taaaaaaaaa 1380
ccttccaaaa cttcccctgg accctaaaaa aaaaaannnn 1420

<210> 787
<211> 3032
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3032)
<223> n = A,T,C or G

<400> 787
naagagtgag cagggcaaag gacgcaagag gacatcgggt gctctccatc accaggagga 60
gacaggtgtt ccactgaagg gcagacaatg tggaaagtaa caagaaaaaa aggctagcac 120
tagattctga agcagcagtc tctgctgata aaccagactc agtactgact catcatgtcc 180
ccagtttcct gcagaagctg tgcaaagaga gggcccagaa gttgtgcaga aatagcacca 240
gggtgcctgc acagtgcaca gtcccttccc atcctcagtc cactcctgta catagcccag 300
acagaatgct ggactcaccc aaaagaaaga gaccgaaatc ccttgcgcaa gtggaagagc 360
ctgcaattga aaatgttaag cctccaggtt cccctgtggc caaactggca aaatttactt 420
tcaagcagaa gtcaaaactg atccactcct ttgaagatca cagccatgtg tcacctggtg 480
caactaaaat agcagttcat agtcctaaaa tttcccagcg tagaacaaga agagacgcag 540
ccttgccggt gaagcgtcca ggaaagttaa catctacccc aggaaaccag atctccagtc 600
agccacaggg tgagacaaag gaggtgtcgc agcagccacc agagaaacac ggaccaagag 660
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agactgggtg tgctcatctt acttgtgagg gagacaaaaa ggaagaggtt tcaggcagta 780
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ccccatcgga atccaaatca aaatcccctc ctcctgaaag gaagaaccga ggtgagagag 900
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aatgtcaaga aggtagcact cataaatcta acaaggcaga tgaactcttt tctacttttt 1500
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tcttagagat ctggccactg gtcaaacagt acctttctga agtactgacc ttctgagttg 1740
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ttaattgtca gagggacttt tggacataga atactcaaaa ctatatgtat tttgtttaat 2340
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaca aaaaaaaaac acaacaaaac aaaacaacac 2520
caaaaaaaaa aacaaaacaa acaacaaaac aagacaccaa cgagcggcgc gcctaaacac 2580
agaagccaca ccggcggcga caccacagcg ccgccccacc acctcaaccc gagccagcca 2640
ccccccatgc gcggaatatc aacagcaaac aggacgcggc aaaaaccgcc gaggaaacaa 2700
accagagcac aggcgcataa ggaacaccca acaccggctg ggagactga cgaggccgca 2760
cccgccacca cgagatcatg agcgcggagc agcaaaatca catacgagcg agctggaagg 2820
caaacacaac acgatagcgc tgggccgacg acctcgccac gagaagtcac acagaaaatc 2880
aacgggcagg aagacaaccc gaagccagcc ggccgccgcg cagagcgacc ccggacgacg 2940
tcgcagcggc cctcgtccgt gcgaagacgg gacgcgcccc gagaggccag gcacccgcga 3000
gcgacccgcc agacaacgac ccgcacaacg an 3032

<210> 788
<211> 275
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(275)
<223> n = A,T,C or G

<400> 788
naactgcacc tccaccgcgg tggcggccga ggtggctgct cgggttagat cgtcaggtga 60
gggaggaagg gatagccagc gcgaaggaag tgctggagtc gtgtgttttg gctgcgcgtg 120
atcctgcgtg ggtcgggagg tgtttctgtg aaaagcctaa agattagact gtaagaaaag 180
aaaatagaag ccatgtttcg aagacctgta ttacaggtac ttcgtcagtt tttaagacaa 240
tagtcccaaa caacttccca ttttggtcnn nnnnn 275

<210> 789
<211> 1303
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1303)
<223> n = A,T,C or G

<400> 789
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gcagaatacc caacaggctg ttcagttctc agctaccaag gggcaccct ttcctctccc 120
agttggtgat gatttgttaa cgtattgtgg aagagccgcg gctggactca ggcactcctg 180
tcctaggata gctagcggcc aggagaaata cagtggaaaa tgcaaaacaa cgaaattata 240
aagcctgcca aatacttctc agaattggaa aagagcatcc tgctggcttt agtagaaaag 300
tataaatatg tgctggaatg taagaaaagt gatgcgcgaa ctattgccct taagcagcgt 360
acctggcagg cgctggccca cgaatacaac tctcagccca gcgtgtccct gcgggatttc 420
aaacagctga agaagtgctg ggagaacatc aaggctcgga ccaaaaaaat tatggcccat 480
gaaaggagag agaaagtgaa acggagcgtc agccctctcc tgagtaccca cgtcctaggg 540

aaggagaaga tcgccagcat gctgccggag cagctctact tcctgcagag ccccccggag 600
gaggagcccg aataccaccc cgacgcctca gcccaagaat catttgctgt ttcaaataga 660
gaactgtgcg atgatgagaa agagttcata cattttccag tatgtgaggg gacctctcaa 720
cctgaaccct cgtgttcagc tgtcagaata acagccaata aaaactacag gagcaaaacc 780
tctcaggaag gtgctttaaa aaagatgcat gaggaagaac accatcaaca aatgtccatc 840
ttacaactgc aactgataca aatgaatgag gtgcatgtgg ccaaaatcca gcagatagag 900
cgagagtgtg agatggcaga ggaggaacac aggataaaaa tggaagttct caataaaaag 960
aagatgtatt gggaaagaaa actacaaact tttaccaagg aatggcctgt ttcctcaatt 1020
aaccggccct tccaaattgc ccagaaaaat ggaggggggg gccccgggta aaaaactggg 1080
ttcggcacaa aatctgtgtc aggtacatgt gggcaaaaca agtgacaacg caccatgcaa 1140
cgtaggggcc accacactat agtgaaaacc agaaaaatga ccagccaact gagaaaacat 1200
gtacaaacaa aatacactaa taagagtaaa acacaacaac agacgataag acgaccagac 1260
gtgatatgct cgggatgcgc atattattct acaactacga nnn 1303

<210> 790
<211> 272
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(272)
<223> n = A,T,C or G

<400> 790
nnnnnnnact cacactccta caccatgagt cactacggca gctactacgg aggcctgggc 60
tacagctgtg gaggcttcgg tggcctgggc tatggctatg gctgtggatg tggcagcttc 120
tgcagacggg gttctggctg tggctatgga ggctacggat atggctctgg ctttggaagc 180
tacggatatg gctctggctt tggaggctac ggatatggct ctggctttgg aggctatgga 240
tatggctgct gccgcccatc gtacctgccc gg 272

<210> 791
<211> 531
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(531)
<223> n = A,T,C or G

<400> 791
tgcctgaaca acaaaccaac tcaccactcc tgacaccatg agtcactacg gcagctacta 60
tggaggcctg ggctatggct gtggaggctt cggtggcctg ggctatggct atggctgtgg 120
atgtggcagc ttccgcagac tgggttctgg ctgtggctat ggaggctacg gatatggctc 180
tggctttgga ggctatggat atggctctgg cttcggaggc tacggatatg gctgctaccg 240
cccatcatac tatggaggat atggattctc tggattctat taaactactg ccccagcaac 300
acaatgtgtg aaattataag aggactttcc cagagctgac ttcaatcatt ggacaacaaa 360
gatcatgctg gagctatttg cacaaaagaa tttaacatct cagaatttca ggcaattttt 420
tttctctgta tacccacatc tctataataa tcctagtatt ctctagtttt gcttttaaag 480
ctgattgaat tatctgttta tcttccaata aaacattcta ttttcaaaca n 531

<210> 792
<211> 1583
<212> DNA
<213> Homo sapiens

<400> 792
acctaccctg gagtgcagta gcacaatcct aatgaactgc agccttaaac tcctgagttg 60
gagatcctcc cacctcagcc tttcggttgc caagactaca ggcacatcac cacgcctggc 120
tcatttgaga aatatttttc tgtagacgtg ggtctcact ttattgccca ggctggtcct 180

tggtctcatg tgatccttct gcctggactg ggattacagg tgtgatcacc atgcctggcc 240
tagaatttaa taaaaattct gagatttcct ttgtgtagca gatgttgaat gttactgtta 300
ttggctgtca ctgtatttga aggatttgta tgtgtaccct ctgttgagtt ttggggacat 360
agcagtgatc cagatgactt aaggtcttgc cttcatggac ctgccagcct agttggggag 420
aaggactggg cccaatacca gaagctgatc caaagtggtc agaactgggg aaggagacct 480
gtgagctgaa agcaggtaaa ggaagtatcc agacagaggc actggtaaaa gacctggagc 540
tgggaagggt ctagggacca gggacaggtt gtactgtaat tctggaaacc tgtgaggctc 600
aaagaaaggg cagagagctc aggtgggaaa tagaaaaggc acctgaacag tccagggatg 660
gctttcgact acttgaaaca gccttgggag tttcagaagc tattggaatg ctccttactg 720
ttcagccttc taagaaccag tcttagaggt agggtgtctg aggtccagtg agggacacaa 780
gtaggaggga gcccagatct tgttcccttt accttgccta tatttcttaa caccacttca 840
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gtgacaccct gaccccccatc cactagtact tgaaggccag tggtggcaga agccacagaa 960
acaagaagcc cagtgagatg gctaagctgc ccagcatgta acttaaatcc ctgttcattc 1020
cccattcctt tagctgctgg agccagttct gcttctcggc aaggagcgat ttgctggtgt 1080
agacatccgt gtccgtgtaa agggtggtgg tcacgtggcc cagatttatg gtgagtccca 1140
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ctttaattgt gtgtctttct cacagctatc cgtcagtcca tctccaaagc cctggtggcc 1260
tattaccaga aatgtgagtg agcatgggtc cttcccatga ggtagatggg tgtgtgggga 1320
tcaagtcaag gactctgtgt gattatctaa atcctcgtcc ctgctcttct tgccagatgt 1380
ggatgaggct tccaagaagg agatcaaaga catcctcatc cagtatgacc ggaccctgct 1440
ggtagctgac cctcgtcgct gcgagtccaa aaagtttgga ggccctggtg cccgcgctcg 1500
ctaccagaaa tcctaccgat aagcccatcg tgactcaaaa ctcacttgta taataaacag 1560
tttttgaggg attttaaagt ttc 1583

<210> 793
<211> 868
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(868)
<223> n = A,T,C or G

<400> 793
ncgtggcggc cgcccgggca ggtacgagtg gaggacaggg acagagccct ctgtggtgga 60
acgaccccac ctcgaggagc ttcctgagca ggtggcagaa gatgcggtaa gatgggcctt 120
gtgatgagct gtaggagtgg agtgggagct gcttgtcccc tccccacccc caacagccca 180
acccaagacc cagagagaag aagggaggat ttctgtgaga gtgactgtag gtagaagggc 240
ccaggaggcc ctactccttt atttttctga gtataggtga gtgagtgcca cagaggcttt 300
gcaaggtggt tcgctttgaa ctcggaacct ccatcatgtg agctctctga agatgggctt 360
tctttggggt agcttagagg ccactgcatt tgaacagtgt gctctctaca gaagcagctg 420
aggcctgtgg gaaggcagcc ccaccctcct ttttaaatta atttattttt gagactgggc 480
cttgctctgt tgcgcaggct ggagtgcagt ggcatgatcc ttgctgactg caacctctgc 540
ctttcagcct caagcgatcc tcccaagtca gcctccaaga tagctgggat tacaggtttg 600
caccaccact cctagctaat tttttattaa catctttgta gggacaggat tttgccatat 660
tgcccaggct ggtctcaaac tcctgggctc aagcaatcca ctatcctcgg cctcccaaag 720
tgctgggact aaaggcgtga gcccttgggc tagcagtaat tatttaaacg aattatttag 780
gagctccaga tggaagggcc cggtttgcca cccggcaagg acagaagctg aatctacctc 840
cggatttccc tccagagccc agctgggt 868

<210> 794
<211> 531
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(531)
<223> n = A,T,C or G

<400> 794
tgcctgaaca acaaaccaac tcaccactcc tgacaccatg agtcactacg gcagctacta 60
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atgtggcagc ttccgcagac tgggttctgg ctgtggctat ggaggctacg gatatggctc 180
tggctttgga ggctatggat atggctctgg cttcggaggc tacggatatg gctgctaccg 240
cccatcatac tatggaggat atggattctc tggattctat taaactactg ccccagcaac 300
acaatgtgtg aaattataag aggactttcc cagagctgac ttcaatcatt ggacaacaaa 360
gatcatgctg gagctatttg cacaaaagaa tttaacatct cagaatttca ggcaattttt 420
tttctctgta tacccacatc tctataataa tcctagtatt ctctagtttt gcttttaaag 480
ctgattgaat tatctgttta tcttccaata aaacattcta ttttcaaaca n 531

<210> 795
<211> 2175
<212> DNA
<213> Homo sapiens

<400> 795
gacccacgcg tccgctggtg tttggcgtcg ggtgagtcgc gctcgactct gctcgcgatg 60
acccctcggg ccgtcgtctc cgtacccccg cgccccccctc ccgtcgcgcg cctgcggacg 120
gaccccgccc cagggcggtc aggcggcggc aggacctgtc agactggctg agaaggaggc 180
gcggggccgg aggtggaggg aggagggttg ctggcgaggc cctggcccgg acgtccaggg 240
gccgggaggc tccaggcgat ggagccggtc tggggagacg ccctgctgga gaagtggccg 300
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cggtggattg ggccgacccc gggcgtgttc gtgtggagca cctgccctgt gcccaacact 480
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acaaccacca tgtcgagcaa aaaggcaaag accaagacca ccaagaagcg ccctcagcgt 600
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ccagggccca tcaatttcac catgttcctg accatgtttg gtgagaagtt aaatggcaca 840
gatcctgaag atgtcatcag aaacgccttt gcttgctttg atgaagaagc aacaggcacc 900
attcaggaag attacctaag agagctgctg acaaccatgg gggatcggtt tacagatgag 960
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ctgtaaaccg atcccccatg gttgtcagca gctctcttag gtaatcttcc tgaatggtgc 1500
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cattcatcat ggcatcaagg tatgcatcag tgggattctt ccctagagaa gcaagcatat 1680
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gagggcattt cttggtggtc ttggtctttg cctttttgct cgacatggtg gttgtttaat 1860
ttctggccaa gcactgttat gaaggcatag ggcttcctca aagagaaagt ctccaaagtt 1920
gatttcttac tctgacaaag actgtcccca tttaatcctc acaacagttg cctatggtag 1980
gtactcttat tcccatttta ctaccagtat aacataacct ctctgagcct caatcctctt 2040
attcccattt tactaccagt ataacataac ctctctgagc ctcaattttt catcagtaaa 2100
acatgatatc tacttcaatg caaagaacta attgagataa catatgtaaa aagactagtc 2160
agttcaaaaa agcgg 2175

<210> 796
<211> 1994
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1994)
<223> n = A,T,C or G

<400> 796
ttttttttt tttttttcct aaaaatgttt tattttaaca aaatgctcaa atatctgaaa 60
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ttaagagagc acagggctgg gtgtgagccc ccaggggtgc ttaagaaggc cgacatggca 360
gatcctgaag gccagccggc gtgatgcgcg cacagccacg aagatccagt aagcgcaggt 420
tgggagagcc gtggagtagg cggcccagga cctcgttgct cacaaagttg caggttgagc 480
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gaggcttggg cagccacatc aggttcaaca gccgcagcac ctggagctga gggcagcctt 600
tctgcagagc ctcgacaggc agctgaaggg gaatgctatt acggttgatg ccggtgctca 660
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cgcctctgat acctccctgc tggaggaaac agcaggaaaa gagaaccagg caggcaagca 1140
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cgggcgcggc cgcn 1994

<210> 797
<211> 1139
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1139)
<223> n = A,T,C or G

<400> 797
nnnatctgta aagagtacaa tgcgtgtggg ccacccggtc ccaacatttt ctgtgtaccc 60
ccgtttttcc tccatagcct tccaggtgcc agcgccccgg gtttcgcccc ctcttgtttg 120
ttcttttttt ggagttcgcc taccttatca gggatgaaaa acagttgaaa catactgccg 180
cagatttcac tgtgccggcc tataaaggaa acaaccctgt tgaagctgtg gagtttttta 240
cgaagacccc ttactataat tggtcactac ctccgtatca gtcacgataa cagcagtaga 300
tatccccggg ttagcatcca gagctgagtg ccccaaggaa gacagaggca atggcagaat 360
aatatgctga gaaaggactc ttaagagcaa tacaaagaga acagacaaaa atctcaccac 420
aaaattgtac ctgagtgaca gattggtaaa gtgttttact ttttttttt cttttcgctc 480
tttggtctga caagaaaaga gttttaggtg tgtgaagtag ggtgggaaaa aaggtcagtt 540

tcaaattcag taacatatgg taacactaag ttaggctgct gcattctttt ctttgggtac 600
ttaagccagc tggcacttcc actttgtaac caattatatt atgatcaaca actaatcagt 660
tagttcctca gcttcaactg aagagttcct gattacctga tgaaggacat acttgctctg 720
gcttcaatta gcatgctgtc aagcatccct ctccatgctt aacatggcaa cacaaaaccc 780
aagagtcctt ctcttttttt cattagccat gaataaacac tcacaaaggg gaagagtaga 840
cactgctttt agtaaacgtc ctttttcttt acctcccttt tccaatgcca agttcatatg 900
aaaaacttta gaaacattaa aatggagaac tctctcaccc aaaaagtaat tctcattcca 960
gactactcta tcaggcagga ttactgtacc gtgcttgttt caaactcaca tccacggagg 1020
gataaaaaga caaaataaaa cttgacagtg tgatacaaca tgaaaatctc ctaaaccatc 1080
aggagcaaac actcagttaa aagctgggtg ttaacaagcg gacgcgtggg cggacgcgn 1139

<210> 798
<211> 1869
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1869)
<223> n = A,T,C or G

<400> 798
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gtcgatgtgc cgcgggagcg gaccatgaat aacccctata ggtaactccc ccataccaca 120
cagaacagtt tgtccagagt caggatctag cctcactttc aaactgggat cttcacgctg 180
aagacatttc aacgcatgtt ccaaatctgg ctgcttagac agtgatgggg gttctatggt 240
acagaagaaa acaggttctg gaatctccac tccagccaat aaaagtctct ctgcttcatt 300
gttttgtctg tgcttctttt ctccctcccg ttcggctcta cgagctgcag ctaatgcact 360
ggacttggat gagacaatgg tgtctccagt ggcagtatgt ttaagcccaa cagtcaaagc 420
aatgttacca gcagtcaatg aagggatttc tacatgttgg tcagcaaacg gcaaaagcag 480
acgacttatt ctctccgtgc agtttccatt aatattatga atggccaact ggggttttat 540
agtgcctgag taaatgcgca taaaaaccag tggtcctcgc tgcttgtcat ggagaacttt 600
aaatgccaat gcacataagt catccttata ccactgcaga aattcatagt tacgctcttc 660
aggtgaaggt aagtacatag taacagcatc taacaagggc tgtatccctt tgtttttcag 720
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atggaatgaa gggatttgat atcatttcct attaagcctg gtagagaact gcatttcttc 1560
cagcggcaca tgtggcttta atctttttaa acttgctctt attttatagc agcatatatt 1620
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tgggctcttg aagcaggagg cgcgagccgc gccaagtctg cacggcctca agtctcgacg 1800
ccagcctagg caaaggcatg tatctaaacg caaagaaaat aggctttctc cgctctaccg 1860
cctcnnnnn 1869

<210> 799
<211> 1113
<212> DNA
<213> Homo sapiens

<400> 799

aaattggggt cccccccggg tgcgggcggc tttttttttt ttttcccttt tttttttttt 60
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tttttttttt tttgaaaaga tgtttgatgt ttatttccac cttgcactca ggtctgagcc 180
acaagtacat taagacattg aatggtatca cccagggaat acgtaaccag acaacacaca 240
agactgagat gcacaagtgg tggtggtggt aattcacgca gaaggaacca gacagtaaaa 300
caaaaattgc ccaacacacc aaatgatcaa atccgccacc tctaggatag gcaaacttga 360
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tagactgtcc tgacatctaa ctgccagcaa gcactgtaca tataatttcc tgagaaacca 480
agtccttagt gggaagggta tccctttgac cagatcttat ggcttaaatt ggtcaggttt 540
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caacagatgt ctcaattttt gacattggtc atc 1113

<210> 800
<211> 306
<212> DNA
<213> Homo sapiens

<400> 800
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tgtttcgttt tggcacagtc catagtcttt agtgcaatgg agcaagatac atggaaaaag 180
aggatgcagt gaatatctta caattctggt tggcagcaga taacttccag tctcagcttg 240
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acaagt 306

<210> 801
<211> 1300
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1300)
<223> n = A,T,C or G

<400> 801
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tgtagtgacc tgtttatgag atgctggttt tctacccaac ggccctgcag ccagctcacg 180
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cttttcttta aagaagttga agtttaggaa tcctttggtg ccaactggtg tttgaaagta 540
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<210> 802
<211> 1079
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)...(1079)
<223> n = A,T,C or G

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<210> 803
<211> 1570
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1570)
<223> n = A,T,C or G

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gttggcaggc cggcgagcgg gcccggcgat ctgggcccag ggctgggtac ctgcggccgg 180
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caaaaattca ctcagtaaaa atcttataaa aatgctatca aaagctgtgg atgctttgaa 360
atctgataag aaagtacgga ccataataat caggagtgaa gtcccaggga tattctgtgc 420
tggtgctgac cttaaggaaa gagccaaaat gagttccagt gaagttggtc cttttgtctc 480
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nnnnnnnnnn 1570

<210> 804
<211> 712
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(712)
<223> n = A,T,C or G

<400> 804
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tggtggagag aggctccagc ttccccccttg tgatggggag agtggatgct gacaatcagt 180
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nnnnnnnnnn nnnnnnnnnc agagtctgat cttatttatt tgttactcaa aaaatcttat 660
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<210> 805
<211> 7864
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(7864)
<223> n = A,T,C or G

<400> 805
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acgc 7864

<210> 806

<211> 1908
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1908)
<223> n = A,T,C or G

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<210> 807
<211> 281
<212> DNA
<213> Homo sapiens

<400> 807
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<210> 808
<211> 1057
<212> DNA
<213> Homo sapiens

<400> 808

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<211> 198
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(198)
<223> n = A,T,C or G

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ttgtgtatca tattatctgt gttagcatgt agtattttca gctactctct attgttataa 180
aatgtagtac ctgcccgg 198

<210> 810
<211> 468
<212> DNA
<213> Homo sapiens

<400> 810
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<210> 811
<211> 3029
<212> DNA
<213> Homo sapiens

<400> 811
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gaagcaatcg cccgaaaaca agaactcag 3029

<210> 812
<211> 1746
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1746)
<223> n = A,T,C or G

<400> 812
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gcggcgatgg cggcagcggc aggtggaggg gctggcgcgg cccgctccct ctcgcgcttc 120
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nnnnnn 1746

<210> 813
<211> 1690
<212> DNA
<213> Homo sapiens

<400> 813
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gtttgagcat 1690

<210> 814
<211> 1139
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1139)
<223> n = A,T,C or G

<400> 814
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<210> 815
<211> 602
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(602)
<223> n = A,T,C or G

<400> 815
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accatatttg attttgtttt tattcttgaa catttttcta atgatttgga gagaaaacta 540
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<210> 816
<211> 1195
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1195)
<223> n = A,T,C or G

<400> 816
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cacgggtagg cgaccagctg cggagaatca cgttgtctca aagccaggcg gccggcgtag 1020
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tctgccccgc ctctccggca gccgctccca gactcgtcgc agtttccaca caggcgccga 1140
caggcagaag cagtttggaa acgcaacata aatcccccca aagatttata cnnnn 1195

<210> 817
<211> 1704
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1704)
<223> n = A,T,C or G

<400> 817
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gtcgcggccg gacggagggt ggagggccct gcgcctgcgc ggagctggag tccggctggg 120
ccgcagccgc tgggagaccg gcggttgccg tggggaccgg tcgggcccct ccctcctccg 180
gtcccccgcc ccaggtcctt ccccaccgag acgcgccggc ggaccgcggg cgagtgcagc 240
cggtgacccg gcgagaggcg gcgccgctcc caagatgtcg cagacggcca tgtccgaaac 300
ctacgatttt ttgtttaagt tcttggttat tggaaatgca ggaactggca aatcttgctt 360
acttcatcag tttattgaaa aaaaattcaa agatgactca aatcatacaa taggagtgga 420
atttggttca aagataataa atgttggtgg taaatatgta aagttacaaa tatgggatac 480
agcaggacaa gaacgattca ggtccgtgac gagaagttat taccgaggcg cggccggggc 540
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agatgcccga atgctagcga gccagaacat tgtgatcatc ctttgtggaa acaagaagga 660
cctggatgca gatcgacgaa gataaccaac atagaaggca ccaaaaatgc tccagaacac 720
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gccgccacag acgacacgaa ccgagacggc cccaaaaagg caggaaagag ggaacgtcgt 840
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cacacgcgac ggcaccagta ctgtcatcag cctaacgaat gtaagcaaga agcgaacatc 960
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gagaacaaga gacaaaagga ggaccgagag aaaggacaga ggacacggaa gaagacgaaa 1260
agaaaaaaga cggacagaaa gagaaccaaa aacaaccaga gagaagaaag acagaaaaga 1320

gaaaggagaa aggagacgac agcaaagaga agcagccaag agaaaaaata gaaggaacaa 1380
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agggaaagga agagaaagag caagagagag agcagcgtga ggaggagaac gatcaagaca 1560
gaggagacag aggaccagac agcaagaagc aagaaaaccg aaaacgaaac gaaagaagag 1620
aagaagaagc agacggacag aagacgacaa gcaaacacca gaagaaagaa agagaaagga 1680
gacacacaac acgaagacga agan 1704

<210> 818
<211> 1874
<212> DNA
<213> Homo sapiens

<400> 818
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ttgccagggc gattcagggt tggcctggcc acagaggcaa tcgcttgttc acagccggta 180
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catttttaaa caaaacaaaa aaaaagttta caaaagaaaa aaagatacag aaaaagaata 600
acttgcttca tatgtcccaa aaagagaaaa aaataaaggg gacaatgcca acatgctcaa 660
caataaaggc ttcttttttct tattttttta atacaaaata caagcaaagg atacacatac 720
ttaaaacaga gctcaggagc agacacgcag tcctggaaac ccttcaataa aagcaaagca 780
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cattgcagta tgaagaaaag agatgccccg gtctcagccc atggactagt taatacagtg 1140
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aagttccaga agacaaagct ttaattgcca gacgtataca aacacacact cacacgtaca 1500
cacccacaca atacttcagg ggtttttata catgttattt tagggcataa gctgagtact 1560
atacccccac accccatcaa aaaaggaaca acaaaaaaat cccaatttta ccctccccca 1620
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ccattgggca tggcaacag ggcaggttta cggggttgtt ttcccaatag gtgggttatt 1800
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ttggggtttc gggg 1874

<210> 819
<211> 2776
<212> DNA
<213> Homo sapiens

<400> 819
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gtatcaccaa gtgaaagctg cggccccatc aatgtgaaaa ctgaacccat ggaagattct 120
ggaagccacc cttcttccac aagcaatgaa gtaatagaaa tggaattacc aatggaagat 180
tccactccgc tggtcccttc agaagaacca aatgaggacc ctgaagccga ggtgaaaatc 240
gaaggaaaca caaattcatc cagtgttaca aattctgcag caggtgttga agatcttaac 300
atcgttcaag tgactgttcc agataatgag aaggaaagat tatcaagcat tgaaaagatt 360
aaacagctaa gagaacaagt taatgacctc tttagccgaa aatttggtga agcaattggc 420
gtggatttcc ctgtgaaagt tccctacagg aagatcacat tcaaccctgg ctgtgtggtg 480

attgatggca tgcccccggg ggtggtattc aaggcccccg gctatctgga aatcagttcc 540
atgaggagga tcttggaggc agctgagttt atcaaattca cagtcatcag gccgcttcca 600
gggcttgagc tcagtaatgg tgagtattct acagtgggaa aacgcaagat agaccaggag 660
ggccgtgtgt ttcaagaaaa gtgggagaga gcgtatttct tcgtggaagt acagaatatt 720
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cactatcaaa ccaatcacag caagcattat gaccagtata cggaaagaat gcgtgacgag 840
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caacttccag ctcctgggtt cgaacgattc tcctgcctca gcctcccgag cagctgggac 2460
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aaaaaaaaaa aaaaag 2776

<210> 820
<211> 1487
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1487)
<223> n = A,T,C or G

<400> 820
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ctgcggacgc cgggacgcca cggctacgcc gccgagttct ccccgtacct gccgggccgc 180
ctggcctgcg ccaccgcgca gcactacggc atcgcgggct gtggaaccct actaatattg 240
gatccagatg aagctgggct aaggcttttt agaagctttg actggaatga tggtttgttt 300
gatgtgactt ggagtgagaa caacgaacat gtcctcatca cctgtagtgg cgatggctcg 360
ctgcagctct gggacactgc caaagctgca gggccactgc aagtctataa agaacacgct 420
caggaggtgt atagtgttga ttggagccaa accagaggtg aacagcttgt ggtgtctggc 480
tcatgggatc aaactgtcaa attgtgggat ccaactgttg gaaagtctct gtgcaccttt 540
agaggccatg aaagtattat ttatagcaca atctggtctc cccacatccc tggttgtttt 600

gcttcagcct caggtgatca gactctgaga atatgggatg tgaaggcagc aggagtaaga 660
atcgtgattc ctgcacatca ggcagaaatc ttgagttgtg actggtgtaa atacaatgag 720
aatttgctgg tgaccggggc ggttgactgt agtttgagag gctgggactt aaggaatgta 780
cgacaaccag tgtttgaact tcttggtcat acctatgcta ttaggagggt gaaattttca 840
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atatttcatt tttaatttgt catttttgat gtaaaatata atcactgctg tgataaataa 1440
actatctatt gatcatttat caaaaaaaaa aaaaatcgcg gccgcaa 1487

<210> 821
<211> 2062
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2062)
<223> n = A,T,C or G

<400> 821
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ggcccgcggt ctgggcgtga gtgcaggaag tggagtattt gctgggccgg gtaccatgga 120
cgtgggcgaa cttctgagct accagcccaa taggggcaca aaacgtcccc gggatgatga 180
agaggaggag cagaagatgc gtcggaaaca aactggtact cgagaacgcg gccgctatcg 240
ggaagaagaa atgactgtgg tggaggaagc ggatgatgac aaaaaaaggc tgctgcagat 300
tattgacaga gatggggaag aggaagagga agaggaggag ccattggatg aaagctcagt 360
gaagaaaatg atcctcacat ttgaaaagag atcatataaa aaccaagaat tgcggattaa 420
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cgatttgctt caggaattaa cagatataga caccctccat gagagtgaag agggagcaga 660
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gacaccccgaa ccgatcacga gggagggccc cgcagacacc cgcaagaaaa aaaccgaaca 1140
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cactagccta agaagatcac acaaggactt atatgcgcgc gtccaacaca tcaccggcgg 1260
cggaggtcgg acgagacaag gaagagagaa aataggagga cgagggaggg gaagagcgag 1320
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agcgaggccg cgtcgacaag acagagagga caacagccaa gaatgcagcc gcgcacacac 1920
cccaacacca gagagaacgc gggcagagcg acagaagagc cacacaacga gcacggacgc 1980
acaccaggca gcagcaggac aagcaagcac acggcacagc gacccacgaa cgagcgacca 2040

gctacagcac accgcgagac cn 2062

<210> 822
<211> 2025
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2025)
<223> n = A,T,C or G

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gactctgatc cggctcagct ttccaatcag ctgcggaagg agccacgctt tcgggggttg 180
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gaagtggagg ccattctgct tgaagtttaa tgggattgtt gaagacttca actatggtac 540
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cagtgtcagg cacaagcacg gagcggacca gacgtccact acgacgggag aacaacaggc 720
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aagaatataa gaaaacaaac agtaagcaaa cacaacaaat caactcacac aaaacgacgc 1200
taaacaacac gcgacacgca aaagcgcaga agaagcacgt acaacagaca acccaggaga 1260
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aacgaagaag cgacacgcca ggacagcggg cagtgactca agcgtcgacg cgcccggaga 1440
gacacgagac gaacagacac gaagcagcgg aacaacacaa cacagagagc acggcaagct 1500
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gaaagcaaac aacgcaaaca caacaccaga acgccaaacc agacgagcaa aaaagcgaga 1620
aagaaagaag agagagaaca aagagcgaac agagacaaga gccacagaaa gaagaaacaa 1680
gagaagagaa caacaaacac aagacaggca gaacaagaca acaacaaaca agacacgagg 1740
aaagacacag aacagaacag aacaacagca agaacacgcc gagaaacaag caccccaaca 1800
gagacacaaa acgtaaagaa gcgacagcaa ggagaaacag acaaccacac gcggacgaca 1860
aagcacagag aagaaacaag cagagaaaga gaacgcacgg agagagacac acgacacgta 1920
cccaagagag aacgcagacg gcaaagagcc gcaacgcacg aacacaagaa agcgacggaa 1980
agaaaacaca ggacacagca acaccgcacc gcaaccacac agcan 2025

<210> 823
<211> 2402
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2402)
<223> n = A,T,C or G

<400> 823
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gacgtccgga gcccctggag taggcgcttc cggccattca tactgcagtc ggtcagtgtt 120

cggttgaagg attctgtgtg ctgtcggacc cagagggtga cggcgccgct aggatgaagc 180
tcgtgagatt tttgatgaaa ttgagtcatg aaactgtaac cattgaattg aagaacggaa 240
cacaggtcca tggaacaatc acaggtgtgg atgtcagcat gaatacacat cttaaagctg 300
tgaaaatgac cctgaagaac agagaacctg tacagctgga aacgctgagt attcgaggaa 360
ataacattcg gtattttatt ctaccagaca gtttacctct ggatacacta cttgtggatg 420
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gaagaggaag aggacgtggc cgtggcagag gaagaggggg tcctaggcga taatgtctct 540
caagatttca aagtcatatg agatttggga tattttttgt acaggttgtg tttgtttatg 600
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caaaggacaa ttcacaaatc aggtagcccc tgaaccataa taggctcaga ggcttcagcc 900
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cctttattaa tgtgaaattc ttgtggatct gtgaaataaa gaggagtact ttcttttcgt 2280
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nn 2402

<210> 824
<211> 2527
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2527)
<223> n = A,T,C or G

<400> 824
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tgttactctc ttatcagcta cacagatcat gaaaaaaatt cccccgcact aaaaatttta 120
caattttata aatagtggtg agggatggga gtgtggggga taagaanaaa gtngacaaga 180
gattatgtac gattgagtgt gataaatata atgaaacaat gaaaaataaa gtgctttaaa 240
agtttagaga aggaaagtat agtgttaaag gggttcgggg gagatttcat taatggaacg 300
gcacagggaa acggctttca aggagaagaa atatttcaca caatgaggag acacaaaggg 360
ccaacacatt cagcatatga cactatatta atggagggtc agcatgtgtg tgaaatgtgg 420
agttcaggtt agtgaagggc tggatctttg taggcagaga tgaggaatca cagcaattct 480
ttgaaagagt aatgatatga tcaaagttaa ttaaagttat gatcttcaga aaaattaatc 540
tggcactgtg tacagaatag attggaatca aaaggaacct ggaggtggga acaccagttg 600

ggagaatgca atgatagcag tatttgttga gcactaagta tgtgatagat ttatcttaat 660
ctatgtcctt ataacatgcc tatgaaatgg gtactatcat tactgcattt tacaagtgag 720
gaaacaaaga aaacagagta aacatctgcc aacgtttatt gacagtgctg agcagtgaca 780
gataaatatt tcgaacctag gcagtttgat tctagaggta aaatagtcta aacaagaatt 840
aaacgttaaa ctggtctaat aaaatctact tatccacaga atgtttttta aaagaagcag 900
gagatatatg gactgcagga taggtgtgat aaaaattttg tttctaaatc atttagaatc 960
cactgcatgt attccaaatt acaattatca gtgacattag aacttgatat gtgaagttct 1020
tcaagagtac tttgtgagac cagatctcca ttttttcca atgggaaatt attgcaagtt 1080
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gtcaggtagt tggctacttt ctgcttggat ctattaaata cctggcagct ctctgtcttt 1440
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cccttttgt cttgagatga aagttttaaa ataatccacc tctgtcattt ccactctctg 1620
aacatcccaa gctgtatccc tggcctcttt tctcagacta tgtttcttta cttgggacct 1680
agaactggat tggattagca ttgctcctga tcagatgaga cctttgatta tttgcccctt 1740
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ccaccgcatt tagtattaca taaactttct tttaacaatc tgtgcatagt acatgctgct 1920
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gcttgggaaa tcaattcaga atatcacatc ctctccaatt ctctcttact caaattgctg 2040
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ttctcttcct catggtacgt gtgctcctaa tattagcgtt ggttgagatt ttcagtggtc 2160
caatattcct cttccctctg gttgcctttc ctgagataat ccactaagaa tattttgtgt 2220
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tatgtgaaag gttcacgtaa atttcctcac atcacagaag attaaaattc agaaaggaga 2340
aaacacagac caagagagaa gtatctaaga cccaaaggga tgtgttttat taatggtcta 2400
ggatgaagaa atgcatagga acattgtagg tacttgtaaa tacctagaaa tacctggatt 2460
tgggccataa tgtgaaaaaa aaaantcctn gattangtcg gaccggggaa aataatccnn 2520
nnnnnnn 2527

<210> 825
<211> 1368
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1368)
<223> n = A,T,C or G

<400> 825
nnnnacgcgg gggcgcctgc gcacctcctt gcccccccctt tcggattccc gacgctgtgg 60
ttgctgtaag gggtcctccc tgcgccacac ggccgtcgcc atggtgaagc tgagcaaaga 120
ggccaagcag agactacagc agctcttcaa ggggagccag tttgccattc gctggggctt 180
tatccctctt gtgatttacc tgggatttaa gaggggtgca gatcccggaa tgcctgaacc 240
aactgttttg agcctacttt ggggataaag gattatttgg tcttctggat ttggaggcaa 300
tcagcggaca gcatggaaga tgtgtgctct ggctcggata agagatggga catcattcag 360
tcactagttg gatggcacaa ggctcttcac agacgcatct gtagcagagt ggaacttgta 420
ctaacttatg atagaatgta tcagaataaa tgtttttaac agtgtaaaaa aaaaaaaaaa 480
aaaaaaagaa acgaatacac cccgggcctc catgtgccgg ggtcgcggac acacagggga 540
accgacaacg cgggccacca gggtaaacaa cagacggaaa aacatgacac aacggtttac 600
gagataagaa aggagggaaa acacagtgca gagagaccac acataatggg acagcacaca 660
atacacatca caaaagcgcc ccgggattaa accccgtgcc caattaagag taaaaacgcg 720
ccggcacaac gccgagcgag aacaaaaacg acaacgcgcg acacaaacac aaagcgaaga 780
aagacatgac gaagcaccat cgacacgcaa acacaccaca agcaatactg aaaaacacca 840
cacacaagag tacactgcga caccacgcca cctgacacaa ggccgagaga taagagaacg 900
atggggtgga agtagagcgg acgagaggct gtggaaaaac gactagaaag tgaatcgaac 960

agaaggaaga ctagagaaag atgcgtatcg gctgaaaaga taagctgatg aggaagaaag 1020
caccgagaga gcgacggagg aggaagcgtc gactgcggag gcgagaggaa gaggaaagaa 1080
taggaccagt gccgaggtat agggaggagg gcatactaat aacaaaacat actataatcc 1140
aaacacaaca catacactac attaaccaca cttactacat aaccaataca catcaacaaa 1200
caatcaagag agaataaaaa taaaatacta acaaaattaa aaacaaagca aaacaataaa 1260
agcctacaat ctaacacaca agagaaacat aaccactaaa tcactacaaa cacacacaga 1320
ataacatcaa actacataaa aatcaataat atcaatacac tataagan 1368

<210> 826
<211> 422
<212> DNA
<213> Homo sapiens

<400> 826
gcgtccgatt tatcatcatg tactctctga catatcagga aaggtgttgg ttgacatcag 60
ctccaggcct agcatagtcc tttatggggt actgggcagc gtgcagacat caacatttgg 120
aaagcatttt cttctgctag caacagcttt gcctgtcagc atccaagggt tatctttcca 180
gttcagcagt gcaactctat ggagtagaat tgaaaggaga cttttcgcca attgcaggaa 240
atggtcataa aaaaatacct gctcactgac agaataaagg taccttttaa cttagtcaaa 300
tctcttttgc attgttttcc aatctgttct tggttgccat tgtatagaaa cagattgaat 360
actcttaaat attttaaaac attaatagag atgaattggt ggaattatat cctattcaca 420
ta 422

<210> 827
<211> 1245
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1245)
<223> n = A,T,C or G

<400> 827
nnnnnnnnnc gtgccccagc ccgaccgacc cagcccttag agccaatcct tatcccgaag 60
ttacggatcc ggcttgccga cttcccttac ctacattgtt ccaacatgcc agaggctgtt 120
caccttggag acctgctgcg ggtacgcgtg cggcccggcg cgttcgccca cgtgaagaac 180
gccagggagc tgtgaggcag tgctgtgtgg ttcctgccgt ccggactctt tttcctctac 240
tgagattcat ctgtgtgaaa tatgagttgg cgaggaagat cgacctattg gcctagacca 300
agacgctacg tagagcctcc tgaaatgatt gggcctatgc ggcccgagca gttcagtgat 360
gaagtggaac cagcaacacc tgaagaaggg gaaccagcaa ctcaacgtca ggatcctgca 420
gctgctcagg agggagagga tgagggagca tctgcaggtc aagggccgaa gcctgaagct 480
catagccagg aacagggtca cccacagact gggtgtgagt gtgaagatgg tcctgatggg 540
caggagatgg acccgccaaa tccagaggag gtgaaaacgc ctgaagaagg tgaaaagcaa 600
tcacagtgtt aaaagaaggc acgttgaaat gatgcaggct gctcctatgt tggaaatttg 660
ttcattaaaa ttctcccaat aaagctttac agccttctgc aaaaaaaaaa aaaagacagc 720
agaacacagc tgtcgcacac agagcgcggt agcccaaccg agccaccacc agcgggcaca 780
caggaacaaa cagagagggg cgaagaaaac acaagcaggg aagcaaaagc ccacgggggc 840
gacacacgac agagacctgc caaacacaca cccagcaggg cgacccgaga gcgcgcaaaa 900
ccgggcgcga acgaacaaga gaggacttcc aaacgcaaca cgcagaacta acaatatcaa 960
gcccaggaag caagcgggac gagggaagaa gagagagaaa gcggaaggag gacgcacggg 1020
cgacggagca cagacgcgca cgaaggagac aacgggagag cacgagagcg aggggaaaga 1080
ggcaggacgg agcacaggag gagaaggaca gagaaggaaa gccaggagca gagagaggcg 1140
cgagagcgcg aggcggaggg aagcgagcaa cgggacacag agaggagaag gaggaggagc 1200
agggatgaca tgcgcagaca gccgaagacc gggagcaacc cannn 1245

<210> 828
<211> 864
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(864)
<223> n = A,T,C or G

<400> 828
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acgcaagaga caatgtcatg tgattcagcc taatatctca gaggatgcag cattcaaggt 120
tctatcttgg aagcagagac tgtgccctca ccagatgctg aacctgctga gcaccctgat 180
cttccacttc accttcatca gaactactgg ggctgtggct gagatgtcac atggcagata 240
ggatcacaaa tttctgttgt atctggatgg agatcagcag gaggatctat gggtgagaag 300
aagcacagtt acagatggat tctagagcct gcttgctgac acaggcttgc aactgcggac 360
tttataagct tagtttttaa tctgctatca gctagcataa taccataaat gcataaaaaa 420
ctaagtattc agtcttacga gaaatgctat cttgacctga ccctttctcc aaataaattg 480
acaaaatatc tcatcgtcta ggatgccaga cagaaatacc agttgcaatg ttttgttgca 540
taaagtttat cctaatttaa attagtggca tataaagtca tcatcttgct tgaacaaaca 600
tcttattaaa ttgagcatgt cttttatccc atgaaatgaa attaattttg agatagttat 660
ttttcagttg gaaatttatt gagttgatag aaaacaagtt atatagtctt ccaaagaata 720
tgttacatcc atttgcattt tgtttttctt cagcaatgtt tggtttttag aaaatcttac 780
aagttaaata tactaatgta gaaattgaaa gaaaataatc agagatagag caataaattt 840
gcaaataaag annnnnnnnn nnnn 864

<210> 829
<211> 3507
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3507)
<223> n = A,T,C or G

<400> 829
nnnnnaagat actttatttt ataatcaaaa tacgcaatac aaacaaatgg acataacaaa 60
gattcatata aataactggt tataaacttt atgaggaaaa atacccgtca gcatggtggc 120
tgacttgtac tgggtactct gaactttcaa ggaggccaga gcaggaaagg gaaaggaata 180
acccccacca cccccaacac aagagaggca caaattagag ggctgggcac aggctgtagc 240
cctgggtgag ggggtaagca gcttgacagt tgctctgtgg tctctgggat ataattctgc 300
ccaaggctag aaccacagag aagagtttgc actcttaagt ccaggaaggg gactacctgg 360
aaggcctgag aacaaaggag aaagtttagc acactaaaca catggccagg accctaggga 420
cacaaggcag ctggagagtg ggatctcttg ttaaatggca tggtaggcag attagagtcc 480
tggctataat ccctagggcc ccaatcctag tagttacgtg ctaaccaaca cattaccctg 540
aggcttctgg gagaacaaga gccctgagga agaagcagta agaccaggca tgagaaaacc 600
cagaaagcca gctcagttcc caagaaggct ggcacatggg gcctgagaat tcttaaatgg 660
ccattgtcac tggtacttgc tcagcctttc caggcccctc tgatgagctc tctaatcagc 720
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tggacagcct gttcgtctct catgtcagcc tagggctggg aacagtttgt gaggacttat 840
ctgttgtacc tgccaaaagt taattagtaa ctcaccgtcg agagtgaatt aacaggacaa 900
acgtaatcca acatgccagt gtgggtagga cacagttccc taatcagccc ttggccccca 960
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gcctgggtct cctccagcaa actctccagc tcagtcactt tctcctgcag ctctgtgctc 1860
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gcctcaggca acactctgta caactcctta cttgtgctgg ttcttgggtt gtggaagcgg 2760
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cttttgatgg gctggaaagg aggactgcca cttgagctgc aaaaatcctc cgcaatatct 3180
gagcatgatg taccaatggc tgtgtcccca ctgtcggcta cacttgaaca gcggctgaag 3240
cggctccgaa agggctccga gataactggg gtctgccatt cagtccccag ggaactgccc 3300
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tcctgcatgg ccatcaatca cagttattta agccaaacgg gcctgaaagc gggcggcgaa 3420
atccctcact cgggaagact gactgcagcc actacgtctg cggtgagcgg tggttccctc 3480
cctcagctcc tctaacggcc gttgcan 3507

<210> 830
<211> 864
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(864)
<223> n = A,T,C or G

<400> 830
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acgcaagaga caatgtcatg tgattcagcc taatatctca gaggatgcag cattcaaggt 120
tctatcttgg aagcagagac tgtgccctca ccagatgctg aacctgctga gcaccctgat 180
cttccacttc accttcatca gaactactgg ggctgtggct gagatgtcac atggcagata 240
ggatcacaaa tttctgttgt atctggatgg agatcagcag gaggatctat gggtgagaag 300
aagcacagtt acagatggat tctagagcct gcttgctgac acaggcttgc aactgcggac 360
tttataagct tagtttttaa tctgctatca gctagcataa taccataaat gcataaaaaa 420
ctaagtattc agtcttacga gaaatgctat cttgacctga ccctttctcc aaataaattg 480
acaaaatatc tcatcgtcta ggatgccaga cagaaatacc agttgcaatg ttttgttgca 540
taaagtttat cctaatttaa attagtggca tataaagtca tcatcttgct tgaacaaaca 600
tcttattaaa ttgagcatgt cttttatccc atgaaatgaa attaattttg agatagttat 660
ttttcagttg gaaatttatt gagttgatag aaaacaagtt atatagtctt ccaaagaata 720
tgttacatcc atttgcattt tgtttttctt cagcaatgtt tggtttttag aaaatcttac 780
aagttaaata tactaatgta gaaattgaaa gaaaataatc agagatagag caataaattt 840
gcaaataaag annnnnnnnn nnnn 864

<210> 831
<211> 1089

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1089)
<223> n = A,T,C or G

<400> 831
cgcgtccgcc cacgcgtccg ccaggctgtt catgtgtctg gtcccatttt cgtactgaag 60
tggaatccta gaaactacag tagtgggaca cataacatag aagtaatcgt ccaggattct 120
gctggaagaa gtaagagtgt tcaccacata ttttctgttc aagagaataa tcatctcagt 180
tttgatcccc tggcatcatt tattctccgt actgatcact acatcatggc ccgggtcctt 240
tttgtgctga ttgtgctgag ccagctcacc attctcatta tttttagata tcgaggatac 300
ccagagctta aagaaccttc agggtttata aatctgacct cattttctct tcatgtcttg 360
agcaaaataa acatcttcta ctattctgtg ttgttgttga ccctgtatac agtgctgggt 420
ccatggtttt ttggtgaaat cattgatggc aaatttggtt gctgcttttc ctttgggata 480
tttgttaatg gacatttcct acaaggcagc ataacattta taattggaat tctccagctg 540
gcgtttttta acatcccctt gatggcttac atgtgttgga gcttgctgca gcggtgcttt 600
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gtgggtgagc tttagggagc agctgctcgt ttggagtcct ggacgttgga gggattaccc 1020
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cccnnnnnn 1089

<210> 832
<211> 1250
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1250)
<223> n = A,T,C or G

<400> 832
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agcctcatct ggaaaacggg gacaaattaa caacaggatg gcaaattgaa agacacgtaa 120
ccatgttcta cagatggaaa ggggtgcttg gttattatga aggccccctc gcaagcgtgt 180
gggacatggg tgtgttctct gggttgtact gatcagatca aggacctccc ccacccttct 240
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accagaacct tggtgaaatc tcaaccgaca ccagagatcg gtgtcttcag tcctagactg 360
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tgctgtggac actgactttg gctcagaact ccgatttagt acaaaaggct cattttttatt 480
tcaggggcac tcttcctaaa gcaaacctaa taaatgaaat atggaattca cagatacaca 540
cacacattaa aaaattaacc tagtgtatct gtgaggagta ggcagaaatt ccctgtataa 600
aagaatgctt catttcatag agaatttgtg ttaagattcc attagatagt acatttctca 660
aagattttg aggttgtatt tgctttacca aaacttggtt tatgtaagtg gaaaaagcat 720
gttgcaaaat aacttggtgt ctatgattca gtttatgtaa aataataaat gtatgtagga 780
atacgtgtgt tgaaagatgt acatcaattt gctaacaatg gttatctctg acgtggtggg 840
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cagacagtac tcatgctgtg catttattag acagtatgcc atagaggtgg gtcatggagg 1020
agtggagaga gagccctgat ttgttgtccc atgaagaaga taggcacagg gtaatatgta 1080
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gatatccagt gggtagtggg tgttaagatt gcaagtgatt tttttcccct ctcccttaat 1200
catgcttttc tgcctaaata aaaaaagaac tctcnnnnnn nnnnnnnnnn 1250

<210> 833
<211> 1960
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1960)
<223> n = A,T,C or G

<400> 833
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tactttgctt gtttgatgag agcccggttt gaagaacata agaatgaaaa ggatatggcg 300
aaggccaccc agctgctgaa ggaggccgag gaagaattct ggtaccgtca gcatccacag 360
ccatacatct tccctgactc tcctgggggc acctcctatg agagatacga ttgctacaag 420
gtcccagaat ggtgcttaga tgactggcat ccttctgaga aggcaatgta tcctgattac 480
tttgccaaga gagaacagtg gaagaaactg cggagggaaa gctgggaacg agaggttaag 540
cagctgcagg aggaaacgcc acctggtggt cctttaactg aagctttgcc ccctgcccga 600
aaggaaggtg atttgccccc actgtggtgg tatattgtga ccagaccccg ggagcggccc 660
atgtagaaag agagagacct catctttcat gcttgcaagt gaaatatgtt acagaacatg 720
cacttgccct aataaaaaat cagtgaaatg gcaacaaaaa cacaaaacag agaccaacag 780
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gatacatact agagtaagtt acgcggacgc aggtctttct tgtgtctttc gtttttatct 960
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agaaaaagca aaagagaaga agacaaacaa caagagaaaa gcaaaaacag agggaaacga 1080
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ggagacgacg agagaaggga gagagagggg cgagagagag aagaggacag ggatgaacgg 1560
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ggaagagagc gaaggaggta ggcggaggac gagcgagcga cgcaggggag agcagaagaa 1860
aggaaagcgg aagaatgaac gcagagagag aaaggagaga gccggagagc agacgagagg 1920
gcgcaagaag gacggagaaa ggcagaagga gagagaagan 1960

<210> 834
<211> 792
<212> DNA
<213> Homo sapiens

<400> 834
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tcagagacac ttagctgctg acaggtcctc ataacctgac tcaggtaaac tgccaagaga 180
tgcttgcact gcactcctca cgttagtcct aagttatatt tcttccttgc cttcagaaag 240
ctgtcacagc aatggttaac attccttgag gcactaggct gtgaagtgct tctcatagat 300
tatctoactg aaatctgaca gctcccagga tgctgtcact cttccgtagc actgagaatg 360
caaatgcagg acatgaacag taatgacaag aagccaaaca tgtgtatgtt ttactggaac 420
ttccaaggac ctgtaatccc aacactgtga gaggccaagg tgggaggacc gcttgaacct 480
aggagtttga gaccagcctg ggcaacatag tgagaccccg tctctggtaa acacgccttc 540

cactgggtga tgagattaag gtgatggact gtcgatcaac taggtccaag gcctgggtgg 600
ctgatgagcc aagagaaact tcagcgataa cagatattca tcaggaattc gcgcgctctc 660
ctgcaccgcc gccgccatct cgctcaggag ctcctccaca accgccggca acactacggc 720
catcgcgccg caggacacgc cctccacgac cggcggaccg ccgcgacgct ccagcggacg 780
cgtgggcgac tc 792

<210> 835
<211> 798
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(798)
<223> n = A,T,C or G

<400> 835
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aaaggcccct tagaatggca agattacatt tacaaagagg tccgagtgac agccagtgag 180
aagaatgagt ataaaggatg ggttttaact acagacccag tctctgccaa tattgtcctt 240
gtgaacttcc ttgaagatgg cagcatgtct gtgaccggaa ttatgggaca tgctgtgcag 300
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acgtctggag actgcaaagc atacagccca gaggatctgg aagagagaaa gaacagccta 420
aagaaatggc ttgagaagaa ccacatcccc atcactgaac agggagacgc tccaaggact 480
ctctgtgtgg ctggggtcct gactatagac ccaccatatg gtccagaaaa ttgcagcagc 540
tctaatgaga ttattctgtc gcgtgttcag gatcttattg aaggacatct tacagcttcc 600
caatgagagg ccaggaagtg tgaacatact gatagaaaaa gactatattt tatccctcat 660
aaaatgtttt aaatgtacaa tgtccttgac tgtgtgtgtc gtatgtgcgc gcggcaaacc 720
ctgtcgttgg aaaccaggac ggtaaaggca attcctggga atttgactcg gagttgctcc 780
tgttaatcgg ctcannnn 798

<210> 836
<211> 798
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(798)
<223> n = A,T,C or G

<400> 836
nnncgaccac gcgtccgcgc tcaacgatcc ttcctcaaag catggttgct gagtacccag 60
agttgcgagg agttttttaa ctgatttagc caggtggcaa tcatgagtga atggatgaag 120
aaaggcccct tagaatggca agattacatt tacaaagagg tccgagtgac agccagtgag 180
aagaatgagt ataaaggatg ggttttaact acagacccag tctctgccaa tattgtcctt 240
gtgaacttcc ttgaagatgg cagcatgtct gtgaccggaa ttatgggaca tgctgtgcag 300
actgttgaaa ctatgaatga aggggaccat agagtgaggg agaagctgat gcatttgttc 360
acgtctggag actgcaaagc atacagccca gaggatctgg aagagagaaa gaacagccta 420
aagaaatggc ttgagaagaa ccacatcccc atcactgaac agggagacgc tccaaggact 480
ctctgtgtgg ctggggtcct gactatagac ccaccatatg gtccagaaaa ttgcagcagc 540
tctaatgaga ttattctgtc gcgtgttcag gatcttattg aaggacatct tacagcttcc 600
caatgagagg ccaggaagtg tgaacatact gatagaaaaa gactatattt tatccctcat 660
aaaatgtttt aaatgtacaa tgtccttgac tgtgtgtgtc gtatgtgcgc gcggcaaacc 720
ctgtcgttgg aaaccaggac ggtaaaggca attcctggga atttgactcg gagttgctcc 780
tgttaatcgg ctcannnn 798

<210> 837
<211> 2702
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2702)
<223> n = A,T,C or G

<400> 837
nagtattaaa cattttcaaa gttacttgcc aacatctaga aagataccag gttttctata 60
aaaaagaaaa ctggatttct ggatgcttct taaaaatcag gaagtctggc agcctgagcc 120
cacatcggct ggagctgagc cgcacctgcg agttgcatct gggatctcca gttcaccggc 180
ccctaagctc ctgagaggtt ggcctgaccc tgaggttgcc tgtcaatcac catttcttcc 240
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tcgggtggtt ttggaggtgc cgtgcacact gctgattggg aggctggacg ctgccagtct 360
gtccggagtt tcctttaccc ctgagtagcc cccagactga actggcagcg agtggaggcc 420
acgatgcatg gttctcttga agctttgctc ttcctgcccc aagtcaccct gtcccttgcc 480
cacgcccatt tgatctgctc aaatgcacaa ctggagatgt gtgtctttcc ccacaggttt 540
cttggcgatc tcacaacaga aggaataaac aagccaggat tttacaaggg cccagccggc 600
tcccaggtga ccctgagcag cctggggaac cagacacgag tgctgctgga ggagcaggct 660
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ctcccagatg tgtccgtgga tgatgtcaga tccacctccc aggggctgtc aagcttcaag 900
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gcgttttaca acgtcgggac tgggaaaaac ctggggttac ccaactttaa tcgccttgca 2700
nn 2702

<210> 838
<211> 3507
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(3507)
<223> n = A,T,C or G

<400> 838
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gattcatata aataactggt tataaacttt atgaggaaaa atacccgtca gcatggtggc 120
tgacttgtac tgggtactct gaactttcaa ggaggccaga gcaggaaagg gaaaggaata 180
acccccacca cccccaacac aagagaggca caaattagag ggctgggcac aggctgtagc 240
cctgggtgag ggggtaagca gcttgacagt tgctctgtgg tctctgggat ataattctgc 300
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aaggcctgag aacaaaggag aaagtttagc acactaaaca catggccagg accctaggga 420
cacaaggcag ctggagagtg ggatctcttg ttaaatggca tggtaggcag attagagtcc 480
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<210> 839
<211> 1195
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1195)
<223> n = A,T,C or G

<400> 839
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aaaaatttat ttggctcata cagtcttaag ccttccggac ggatgtatgg cccctaagcc 120
cattcagatt ttactgccac aactgacacc ccttccagag tcgaacccct ttctatctcg 180
gaagtccatc attccctcaa cttctgatct ctccagttcc agtcaaaaac cagaaatttt 240
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<210> 840
<211> 1194
<212> DNA
<213> Homo sapiens

<220>
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<211> 2702
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)...(2702)
<223> n = A,T,C or G

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<210> 842
<211> 4626
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)...(4626)
<223> n = A,T,C or G

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<211> 2990
<212> DNA
<213> Homo sapiens

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<211> 421
<212> DNA
<213> Homo sapiens

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<210> 845
<211> 6927
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(6927)
<223> n = A,T,C or G

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<210> 851
<211> 1465
<212> DNA
<213> Homo sapiens

<400> 851

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<210> 852
<211> 4343
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(4343)
<223> n = A,T,C or G

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gaaacagaaa aaannnnnnn nnn 4343

<210> 853
<211> 282
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(282)
<223> n = A,T,C or G

<400> 853

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<210> 854
<211> 2763
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2763)
<223> n = A,T,C or G

<400> 854
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<210> 855
<211> 555
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(555)
<223> n = A,T,C or G

<400> 855
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atgtcattag cgacttcgtt aaatgtatat gtaattctat attttcccca aaacccacat 180
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<210> 856
<211> 628
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(628)
<223> n = A,T,C or G

<400> 856
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<210> 857
<211> 6927
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(6927)
<223> n = A,T,C or G

<400> 857
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<210> 858
<211> 1255
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(1255)
<223> n = A,T,C or G

<400> 858
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<210> 859
<211> 2065
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2065)
<223> n = A,T,C or G

<400> 859
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<210> 860
<211> 628
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(628)
<223> n = A,T,C or G

<400> 860
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<210> 861
<211> 1116
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1116)
<223> n = A,T,C or G

<400> 861
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<210> 862
<211> 2100
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2100)
<223> n = A,T,C or G

<400> 862
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aggagaagaa aaaggaaaag ggcaaattga aagtcaagga gaaaaagcgc aaagaggaga 1980
atgaagatcc agaaaggaaa ataaagaaga agggcttcgg cgccatgctg agatttggaa 2040
agaagaaaga ggataagggt ggaaaggctg agcagaaagg tactctgaaa cannnnnnnn 2100

<210> 863
<211> 555
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(555)
<223> n = A,T,C or G

<400> 863
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atttttaaaa tcgctacaat taaaaaaatt caagatggtt acattatgaa tatgaatgaa 120
atgtcattag cgacttcgtt aaatgtatat gtaattctat attttcccca aaacccacat 180
tttatgaaga atatttattt atttatttat ttttgttttt tgagatggag tctcgctctg 240
ttgccagact ggagtgcaat ggtgcgatct ccgctcactg caacctccac ctcctgggtt 300
caaacgattc tcctgcctca gcctcccgag tagctgggac tacaggcacc gccaccacgc 360
ccggctaatt tttgtatttt tagtagagac agggtttcac catgttagcc aggatggtct 420
ccgtctcttg acctcgtgat ccacccgcct tggcctccca aagtgcgggg attacagacg 480
cgagctaccg tgcccagccg caacattgat tttttaagta aagtcgtgaa cgnnnnnnnn 540
nnnnnnnnnn nnnnn 555

<210> 864
<211> 1115
<212> DNA
<213> Homo sapiens

<400> 864
accagaaagt gtgcacagga ttgggaatgt aaagatcatc aatgctaact cctgaccttg 60
agagctgtac aaacttattg gacacagaca agtggaaacc cgaaaagaga aagcagtcaa 120
ttctatattt ggaggaagat catgaaaggt tttacatagg aaggatttcc cctttggtca 180
atcagaaaag catgaattct atcaatagta gaaatctata aatcagtcta actatatact 240
agagaaaaca cacagaaaat gcaagtaagt ataaatatgt ccagtaattt cttaacatta 300
tctttttact aataaatata atgggagtaa aaacatcaat ctcacataag tgctaagagt 360
tttcaatatc aaatattaaa taaacaagtg atatgcaaac tatggtatta tacctatatc 420
agttattatt taaagataca tgaaatgcaa ggtgatagaa gacaagaagg aatagttttc 480
cctaatatta acttacatca ttggagattc aagtaaaagt gttcacatag tttaaccaag 540
cattcattta atccaaacca atattcttcc attcacccaa caaatactgt tacccaaaca 600
ctgtctactt tatgtcagat gtcccaggct tcttctagat atggaagaca cagcagtgaa 660
caaagtcctt gttctagtgt gggaaacaag caatgcaggt tgagtcccta atgctgaaaa 720
tccaaaatcc aaaatatttt aagtgccaac atggcaccac aagtggtaaa ttccacacat 780
aaatacttaa cacaaacttt gtttcatgca caaaattatt ttaaaacatg tataaaatta 840
acttaaggcc atgtgtataa ggtatatata aaatgtaaac aaatttcatg tttagacttg 900
ggttccatcc ccaacatatg tgcaaatatt ccaaaatcca aaaaatccaa aatcttaaac 960
acttctggtc ccaagcattt cagataaggg atactcaatc tctaatacaa gatgtatatg 1020
catgtgtgta agtatgcaca tgtataactt gtcagttagt gataggtgct gtaaagaaaa 1080
ataaagggaa aagtgacata gaagtgccat actcc 1115

<210> 865
<211> 1116
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1116)
<223> n = A,T,C or G

<400> 865
nagtcgtata gaccaccttg tttgttgttg atgggtagac atgaagcaga tttatgtatg 60
ttgtctctgc acgcatgtac tatagatgtg ccatcataca tattgtgtgg gtccggaact 120
ataattgtgc cttgcagcac gcccagtggg ggacccacag tgtggacctc ttttttggag 180
caaatggtat atttatttaa actcccccgt gctttaggtg gcaccaccac gttgtgtgca 240
aattcgccac cccaggtgca agtttaggtt ctgccgagcg cgccaatctc ctgggggttt 300
cgttctgttg gccttccttg tgtcctttgg tgatattggt ccatctggtt cgtcagtact 360
ggtttcgggc gccttgccaa tcctgttttt gctcctgtct gtttttcaga ttcttcttct 420
tcatctgaac tgctttctgc tttcttggtt ttattcttag gaactttctt tggtggctgc 480
agattaattc ctgcatctgc tgtccagtca gagtaatcac tggagtagtc actagaactg 540

ccatcactgt gccatgctct ctcttcttct tcggatgttc caccactgac agcaactact 600
tcgccttcat ctgaagaact actgccattt tctatctctt ctgagggtct aggagtctct 660
tccaatgcag atcttgtacg ataattgtgt tgatttgtct gttgcttttt ggattctcca 720
agatccagga aatgctcatg agcatgattc tttgagacag tgggtatttt attctctttt 780
ggaacagtta agtgtttct tttctcttct gacctgtaag tctttatttc ttcttctccc 840
tttgcagttc tccattcttc ttgcctactg gctacaccag ctgatagctc gggtactacc 900
acccttcgac tccaagctac cagatcccgc tctgtggcta tttcacttct tggtgcgttg 960
ctgtgcattt gccgtacacc ttcaatttgt ccactacgtc ttagtcctac gtttggtggt 1020
gaatgaacct ctgaggtaga acttatggag cctctactta aacggctggt attactgata 1080
cctgcttcac cagaacgtct caggtctgtg gaannn 1116

<210> 866
<211> 628
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(628)
<223> n = A,T,C or G

<400> 866
nntggcggcc gcccgggcag gtacatgtaa aatcttactg cagttttatg tttttaatag 60
tcaaaataga atgtataatc ttgatgatgt ttataaatca tcaaatgccc tttggggtgt 120
aaaaatgggt tcttgagcag cagtgtctaa tgattccatc acaaatttgt tataaagcca 180
aactcccatt gaaagtgtca ctttatgctt aataggaaat cgttatgatt aaagcatcaa 240
ggaagcaaat ataaagttta atgaaaatcc aaggggaagt tctaaattgc aaaacttggc 300
acttatctac agtattttga aaaataacac caccggtatt caaacctacc taggaatatc 360
tcaaaataac ctgttaatta agtgttctta gaaaggggag tgggggcaag aaagatgatg 420
tatgcacatg gcgaaaagat cagatggtac agaaaggtat aaaaacttgg tcccttccct 480
cctaccctaa tactcctctc caaaagtaac cagtttcaag tgtcttgtac tcacaggaaa 540
acaatttttt attttttatc agcaaatttg tactttaaaa atttcacatt aatagaatca 600
gactatatat actcttctgt accttgcn 628

<210> 867
<211> 628
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(628)
<223> n = A,T,C or G

<400> 867
nntggcggcc gcccgggcag gtacatgtaa aatcttactg cagttttatg tttttaatag 60
tcaaaataga atgtataatc ttgatgatgt ttataaatca tcaaatgccc tttggggtgt 120
aaaaatgggt tcttgagcag cagtgtctaa tgattccatc acaaatttgt tataaagcca 180
aactcccatt gaaagtgtca ctttatgctt aataggaaat cgttatgatt aaagcatcaa 240
ggaagcaaat ataaagttta atgaaaatcc aaggggaagt tctaaattgc aaaacttggc 300
acttatctac agtattttga aaaataacac caccggtatt caaacctacc taggaatatc 360
tcaaaataac ctgttaatta agtgttctta gaaaggggag tgggggcaag aaagatgatg 420
tatgcacatg gcgaaaagat cagatggtac agaaaggtat aaaaacttgg tcccttccct 480
cctaccctaa tactcctctc caaaagtaac cagtttcaag tgtcttgtac tcacaggaaa 540
acaatttttt attttttatc agcaaatttg tactttaaaa atttcacatt aatagaatca 600
gactatatat actcttctgt accttgcn 628

<210> 868
<211> 2898
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2898)
<223> n = A,T,C or G

<400> 868
tcgacccacg cgtccgggcg ggacaaccgc tgggcgggcg ccaagcgtgc ccgtgcgctg 60
gtgaggtggc gtccgttcta cccggtcgct cccgttccgc gccatgcaga gcccagtctc 120
tggcacctgg ctgctctgat ctggtctcag cgcggaggga gcagagggag tccatggagg 180
atccctccga gcccgaccgg ttggcgtccg cggacggcgg gagcccggag gaggaggagg 240
atggggagcg ggagccgctg ctaccgcgga tcgcctgggc ccacccgcgg agaggcgccc 300
caggcagcgc cgtgaggctg ctggacgctg ccggggagga gggcgaggcc ggcgacgagg 360
agctgcccct cccgcccggg gacgtggggg tctcccggag ttcgcccgcc gagctggacc 420
ggagccgccc cgcggtttca gtaactattg gtacttcaga gatgaatgca ttcttggatg 480
acccagaatt tgctgatatt atgctgagag cagagcaagc aatagaagtt ggaatttttc 540
cagaaagaat ctctcaaggt tcaagtggaa gttactttgt gaaggatcct aagaggaaaa 600
ttattggtgt gtttaaaccc aaatcagaag agccttatgg tcaactcaat ccaaaatgga 660
ccaaatatgt ccataaggtc tgctgccctt gctgctttgg ccgaggctgc ctgattccta 720
atcaggggta cctttccgaa gcgggtgcct atcttgtgga caacaagctt catctgagca 780
ttgtacctaa aacaaaggtg gtttggcttg tcagtgagac atttaactat aatgcgattg 840
accgtgcaaa atcaagaggc aaaaagtatg ctttagaaaa agtgccaaaa gtgggtagaa 900
agtttcatag gataggactc cctcctaaga ttggttcctt tcagttattt gttgaaggtt 960
acaaggaggc tgaatattgg cttaggaaat ttgaagctga ccctttgcct gagaatatta 1020
gaaaacaatt tcagtcacaa tttgaaagat tagttatttt ggattacatc atcagaaata 1080
cagacagggg caatgataat tggttagtca gatacgaaaa gcagaaatgt gaaaaggaaa 1140
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taccatatat ttctgacatg aactttgtgc aagatttatg tgaagatctc tatgaacttt 1380
ttaagactga caaaggattt gacaaagcca cttttgaaag tcagatgtct gtgatgaggg 1440
gtcagatctt aaaccttact caggcattga gagacgggaa gagtcctttc cagctagtac 1500
agataccttg tgtgattgtg gaacgcagtc aaggtggaag tcagggtcgg attgtccacc 1560
tgagcaattc ctttacccag actgtcaatt gcaggaagcc atttttttcc tcctggtagt 1620
aaatgtcaga gtaagagaaa caaactgttt agaattatca tgtttttaaa acatcatagt 1680
aatataaatc tgctgttagg agctccagtt gctaaaacct caatttaagt ctttaaaagg 1740
ttgtattttg aatgtaacca aaagtttaca gtttttgtc caaatattaa atttctattt 1800
cagggaagaa gtgctatatc tcctatattg tatttttgta gaaaatttgt attttatgtt 1860
gttgttagtt taaaaggtaa ttttacacat gctggaatga ctgtaattac tctagaattc 1920
caagtagaat acaataactt ttaatattga gaagaatgtt catgctaatt cttcttacat 1980
tacaaaaggc ctttgaggat gcctacgtct gaaattgctc ttacgaactt taataaaata 2040
gttagctaat agaaaaacag gtaagaataa agcaatgttg ccttaatttc aaaagctgct 2100
attttagaat ttgaataagt actcctaaag tgaccattat tagggaccag aaaattatat 2160
cttggctaag taatagagga ccattttggt ttttgtactt gagaatattt ttggtgaatt 2220
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taccaaaatt gccttaaaaa ttcccttctg tttcttacat gggatcaaat acttgagatt 2400
agtacttcag agtactggcc ttgttcaatt tagtacttca attagtatta aacttcacta 2460
aaaagtaaac catactccaa attgtatatt ggattgcatt ttggggtcct aggtcatacg 2520
ttcttcaaaa ttattatgat tgtactattg tacttgaaat tacagatgtt attataatta 2580
cagtcaaatg tagactatca ggccaaatta aaggggagca tggcaagata accataaagt 2640
catttatatt tgattttgaa atgtattttt ggactttaat tttgaatatc atccatatgt 2700
ctgacattaa tgggaatttg taacattgtt aatgcaccaa agtggattta aattcaattg 2760
atgaaagatg tggattttac agaagcaaga agtttcattt ccttganggc taaaaccaat 2820
gtcacacttg gggctaacng ggtaatttgt ggccaaggcc tttggtttcc aagctacaac 2880
ctggggttgg nnnnnnnn 2898

<210> 869
<211> 2898
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2898)
<223> n = A,T,C or G

<400> 869
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gtgaggtggc gtccgttcta cccggtcgct cccgttccgc gccatgcaga gcccagtctc 120
tggcacctgg ctgctctgat ctggtctcag cgcggaggga gcagagggag tccatggagg 180
atccctccga gcccgaccgg ttggcgtccg cggacggcgg gagcccggag gaggaggagg 240
atggggagcg ggagccgctg ctaccgcgga tcgcctgggc ccacccgcgg agaggcgccc 300
caggcagcgc cgtgaggctg ctggacgctg ccggggagga gggcgaggcc ggcgacgagg 360
agctgcccct cccgcccggg gacgtggggg tctcccggag ttcgcccgcc gagctggacc 420
ggagccgccc cgcggtttca gtaactattg gtacttcaga gatgaatgca ttcttggatg 480
acccagaatt tgctgatatt atgctgagag cagagcaagc aatagaagtt ggaatttttc 540
cagaaagaat ctctcaaggt tcaagtggaa gttactttgt gaaggatcct aagaggaaaa 600
ttattggtgt gtttaaaccc aaatcagaag agccttatgg tcaactcaat ccaaaatgga 660
ccaaatatgt ccataaggtc tgctgccctt gctgctttgg ccgaggctgc ctgattccta 720
atcaggggta cctttccgaa gcgggtgcct atcttgtgga caacaagctt catctgagca 780
ttgtacctaa aacaaaggtg gtttggcttg tcagtgagac atttaactat aatgcgattg 840
accgtgcaaa atcaagaggc aaaaagtatg ctttagaaaa agtgccaaaa gtgggtagaa 900
agtttcatag gataggactc cctcctaaga ttggttcctt tcagttattt gttgaaggtt 960
acaaggaggc tgaatattgg cttaggaaat ttgaagctga ccctttgcct gagaatatta 1020
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cagacagggg caatgataat tggttagtca gatacgaaaa gcagaaatgt gaaaaggaaa 1140
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ttaagactga caaaggattt gacaaagcca cttttgaaag tcagatgtct gtgatgaggg 1440
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agataccttg tgtgattgtg gaacgcagtc aaggtggaag tcagggtcgg attgtccacc 1560
tgagcaattc ctttacccag actgtcaatt gcaggaagcc attttttccc tcctggtagt 1620
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aatataaatc tgctgttagg agctccagtt gctaaaacct caatttaagt ctttaaaagg 1740
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cagggaagaa gtgctatatc tcctatattg tatttttgta gaaaatttgt attttatgtt 1860
gttgttagtt taaaaggtaa ttttacacat gctggaatga ctgtaattac tctagaattc 1920
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tacaaaaggc ctttgaggat gcctacgtct gaaattgctc ttacgaactt taataaaata 2040
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attcaattga gacttgaggg gaataataga aaattaaggt agatccccaa tattttggaa 2340
taccaaaatt gccttaaaaa ttcccttctg tttcttacat gggatcaaat acttgagatt 2400
agtacttcag agtactggcc ttgttcaatt tagtacttca attagtatta aacttcacta 2460
aaaagtaaac catactccaa attgtatatt ggattgcatt ttggggtcct aggtcatacg 2520
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cagtcaaatg tagactatca ggccaaatta aaggggagca tggcaagata accataaagt 2640
catttatatt tgattttgaa atgtattttt ggactttaat tttgaatatc atccatatgt 2700
ctgacattaa tgggaatttg taacattgtt aatgcaccaa agtggattta aattcaattg 2760
atgaaagatg tggattttac agaagcaaga agtttcattt ccttganggc taaaaccaat 2820
gtcacacttg ggctaacng ggtaatttgt ggccaaggcc tttggtttcc aagctacaac 2880
ctggggttgg nnnnnnnn 2898

<210> 870
<211> 238
<212> DNA
<213> Homo sapiens

<400> 870
ccgggcaggt acatgttctt tgttaagtgc caacagtatg tatactacac tatgtagaag 60
aaaaaataag aatttgaaat ctgccgaact aagtttactg gtgctaactg ttaactggta 120
tcttgccttc cccctatgag ctgaaaaatc aggtattatt gagtatcaca aatgcaagtt 180
gcctcagctc ctacagcata agaaaagacc aaacttttta ttttgttaaa tctgaagt 238

<210> 871
<211> 744
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(744)
<223> n = A,T,C or G

<400> 871
ggtatagact cctccttaga ggtgtctagc agtaggaaat atgataagca aatggccgtg 60
ccttccagaa atacaagcaa gcaaatgaat ctgaatccta tggattcacc tcattcccct 120
atatcccctc tgccaccaac actcagccct cagccacgag gtcaggaaac agagagtttg 180
gacccaccat cggtccctgt gaatccagcc ctttatggaa atggactaga actccagcag 240
ttgtctactc tggatgacag aactgtcctc gtaggccaaa gactgcctct catggcagag 300
gtcagcgaga cagccttata ttgtgggatt aggccctcga acccggagtc atcagaaaag 360
tggtggcata gttattgtct cccacccagt gatgatgctg agttcaggcc tccagagctc 420
cagggtgaga gatgtgatgc caaaatggag gtaaactcag agagcactgc attgcaaaga 480
ctcttagcac aacctaacaa acggtttaaa atctggcaag acaaacagcc ccagttgcag 540
ccactccact tccttgaccc attgcctcta tcacaacaac ctggagacag tttgggagaa 600
gtgaatgacc catatacctt tgaagatggt gacataaaat acatctttac agccaacaag 660
aaatgcaaac aagggacgga gaaagattcc ctgaaaaaga ataagtcaga ggatggattt 720
ggtcctgccc gggcggccgc tcnn 744

<210> 872
<211> 4877
<212> DNA
<213> Homo sapiens

<400> 872
agggggtttg gggggggcct tttttttttt aaccccactt gaaaaaaggg ggttttttcc 60
aaccggattt atttgggtta cccccgggtt tttcccttcc caaggttttt aaaaaagggc 120
ccaggggggg gggtaaaata tccccctttg ggggaaattg gggccccccc cggggggggg 180
gggccttttt ttttttttta aatttttttt tttttttttt tttttttttt tttttttttt 240
tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 300
tttgatggtt ttcaatgttt tatttcacaa attgttcaga tttgttcata aaagatatgt 360
tacaggaaca ttttagaaat caaaccagtt ctactgaaac aattgcaaca acgtggcccc 420
tgttcatgca aagcacaaaa aacatttaca ataaaacttt gtacacagga agtagcaaaa 480
tacatcattt ttcatagaaa aaagcacaca cataaactgc gggctgagtg agcctacaga 540
caatatgaga aaccagcaca cgctttggaa tacggtaggg caaaactcct aaggaagccg 600
aaaatgttca tcctgtgggc aggagagcca ggaacgccgt tggcttggta caagatcttt 660
ttaaacacag ggtaagtgtt ggtagcacga ggggcctcta ttccacacac aggagaggtg 720
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cagtttcaaa atgtttgtgg ggatgataaa gacagccagg tccatggccg ggcgcagtgg 840
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agttcgagac cagcctggcc aacataatga aaccccatct ctactaaaaa tacaaaaatt 960
agccgggcat ggtagctcac gcctgttgcc caaggtactt gggaggctga tgcatgagaa 1020
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cggggacttt atttttaaat gatggggtca actcacactg gaagtttcaa gtctcccttg 1260
agtgggatgc tttggaagcg agcccactgg gatcgtcctg gacccttcac taattctgca 1320
aaccccacag ggcgatctaa tttatcttgc agacacagac acagccacaa aagtccagca 1380

gcagagcacc cagcacccag aagtttccca gatgtttggt ggtaactgga ctcacgacct 1440
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ttacgactag actacaatgc acaaagcacg tagtcctgtg aattttagct cagtcaagct 1560
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<210> 873

<211> 4877
<212> DNA
<213> Homo sapiens

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<210> 874
<211> 446
<212> DNA
<213> Homo sapiens

<220>
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<223> n = A,T,C or G

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cacggaccaa agtgttcctg cttctgagtt gtctgtaagc taattctgca gatgttccat 300
tcagatttaa agcttttta ctgcatagga tgtggatagg aagcctaact attgtatctg 360
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cagaagcact gattcaagat gtgcnn 446

<210> 875
<211> 446
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)...(446)
<223> n = A,T,C or G

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<210> 876
<211> 679
<212> DNA
<213> Homo sapiens

<400> 876
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cagctgttca tggcagaaa 679

<210> 877
<211> 704
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(704)
<223> n = A,T,C or G

<400> 877
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<210> 878
<211> 1139
<212> DNA
<213> Homo sapiens

<400> 878
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<210> 879
<211> 2497
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2497)
<223> n = A,T,C or G

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<210> 880
<211> 944
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(944)
<223> n = A,T,C or G

<400> 880
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ctccacctcc tgggttcaag caattctcct gcctcagcct cctgagtagc tgggattaca 180
ggcacccacc accacacctg gctaattttt gtattatgtt ggccaggctg gtctcaaact 240
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caacagcgct cagccatggt tcaagattcc taatgttcat ttgaatgtca tattggcagt 360
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atccttaata ttggtgaatt cattttggct ttatatttta aaaaaatatt tattttaaac 540
atgaaactta tttttttaac aaagtgtcta ttactattcc gctatctatt gcagtaaaga 600
atacagtttt ttaaaaggaa aatagttggg catctgtttg acagaaatga gtacttcaag 660
tacataagta aatcatcaac agaactacac actctaaaca acagcagtaa aaaggaaaag 720
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atgccacaaa atatacaaag cggacgcggg gtcgactccc tata 944

<210> 881
<211> 944
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)...(944)
<223> n = A,T,C or G

<400> 881
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ctccacctcc tgggttcaag caattctcct gcctcagcct cctgagtagc tgggattaca 180
ggcacccacc accacacctg gctaattttt gtattatgtt ggccaggctg gtctcaaact 240
cctgacctca ggtgatctac ctccctcggc tttccaaagt gctgggatta caggcctgag 300
caacagcgct cagccatggt tcaagattcc taatgttcat ttgaatgtca tattggcagt 360
acaatcactg agatctctct tcaactaaaa ctgagaattg gctacagaaa ataagttgtg 420
acatgaagat aaaatacata ttggcaaaat ataacacact gaatcccttg gctacattaa 480
atccttaata ttggtgaatt cattttggct ttatatttta aaaaaatatt tattttaaac 540
atgaaactta tttttttaac aaagtgtcta ttactattcc gctatctatt gcagtaaaga 600
atacagtttt ttaaaaggaa aatagttggg catctgtttg acagaaatga gtacttcaag 660
tacataagta aatcatcaac agaactacac actctaaaca acagcagtaa aaaggaaaag 720
agctagaata tgtatttcat ataaagctta agtttcacaa cataataaat aaatgcactg 780
atttatacaa cttgtggaaa ccttcttttg atgattacaa gtaatactgt ctgttactga 840
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atgccacaaa atatacaaag cggacgcggg gtcgactccc tata 944

<210> 882
<211> 744
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(744)
<223> n = A,T,C or G

<400> 882
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atatcccctc tgccaccaac actcagccct cagccacgag gtcaggaaac agagagtttg 180
gacccaccat cggtccctgt gaatccagcc ctttatggaa atggactaga actccagcag 240
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gtcagcgaga cagccttata ttgtgggatt aggccctcga acccggagtc atcagaaaag 360
tggtggcata gttattgtct cccacccagt gatgatgctg agttcaggcc tccagagctc 420
cagggtgaga gatgtgatgc caaaatggag gtaaactcag agagcactgc attgcaaaga 480
ctcttagcac aacctaacaa acggtttaaa atctggcaag acaaacagcc ccagttgcag 540
ccactccact tccttgaccc attgcctcta tcacaacaac ctggagacag tttgggagaa 600
gtgaatgacc catatacctt tgaagatggt gacataaaat acatctttac agccaacaag 660
aaatgcaaac aagggacgga gaaagattcc ctgaaaaaga ataagtcaga ggatggattt 720
ggtcctgccc gggcggccgc tcnn 744

<210> 883
<211> 744
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(744)
<223> n = A,T,C or G

<400> 883
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atatcccctc tgccaccaac actcagccct cagccacgag gtcaggaaac agagagtttg 180
gacccaccat cggtccctgt gaatccagcc ctttatggaa atggactaga actccagcag 240
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cagggtgaga gatgtgatgc caaaatggag gtaaactcag agagcactgc attgcaaaga 480
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ccactccact tccttgaccc attgcctcta tcacaacaac ctggagacag tttgggagaa 600
gtgaatgacc catatacctt tgaagatggt gacataaaat acatctttac agccaacaag 660
aaatgcaaac aagggacgga gaaagattcc ctgaaaaaga ataagtcaga ggatggattt 720
ggtcctgccc gggcggccgc tcnn 744

<210> 884
<211> 4877
<212> DNA
<213> Homo sapiens

<400> 884
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aaccggattt atttgggtta cccccgggtt tttcccttcc caaggttttt aaaaaagggc 120
ccaggggggg gggtaaaata tccccctttg ggggaaattg gggccccccc cggggggggg 180

gggcctttttt ttttttttta aatttttttt ttttttttt ttttttttt ttttttttt 240
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tacaggaaca ttttagaaat caaaccagtt ctactgaaac aattgcaaca acgtggcccc 420
tgttcatgca aagcacaaaa aacatttaca ataaaacttt gtacacagga agtagcaaaa 480
tacatcattt ttcatagaaa aaagcacaca cataaactgc gggctgagtg agcctacaga 540
caatatgaga aaccagcaca cgctttggaa tacggtaggg caaaactcct aaggaagccg 600
aaaatgttca tcctgtgggc aggagagcca ggaacgccgt tggcttggta caagatcttt 660
ttaaacacag ggtaagtgtt ggtagcacga ggggcctcta ttccacacac aggagaggtg 720
gtgctaggga cagggcttat catttatagt cttgtttcca ttttctgaag acaaatattc 780
cagtttcaaa atgtttgtgg ggatgataaa gacagccagg tccatggccg ggcgcagtgg 840
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gacgcgtggg tcgactc 4877

<210> 885
<211> 2497
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2497)
<223> n = A,T,C or G

<400> 885
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gctcctgctg atcggcgact cgggggtagg caagacctgc ctcctgttcc gcttctcaga 180
ggacgccttc aacaccacct tcatctccac catcggaatt gattttaaaa ttagaacgat 240
agaactagat ggaaagaaaa ttaagcttca gatatgggac acagcgggtc aggaaagatt 300
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ctcttccgat gtcgaaagaa tgatcctggg taacaaatgt gatatgaatg acaaaagaca 480
agtgtcaaaa gaaagagggg agaagctagc aattgactat gggattaaat tcttggagac 540
aagcgcaaaa tccagtgcaa atgtagaaga ggcatttttt acacttgcac gagatataat 600
gacaaaactc aacagaaaaa tgaatgacag caattcagca ggagcaggtg gaccagtgaa 660
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<210> 886
<211> 197
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(197)
<223> n = A,T,C or G

<400> 886
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taagagttga tacatat 197

<210> 887
<211> 714
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(714)
<223> n = A,T,C or G

<400> 887
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ccaattttca aaaagaagga tttgaaactg caagatgaaa aactagatgt gtcaaccaaa 600
tgctgtttca gtgctcacat acagggacat aactatttta taggcagctg ttggaaattg 660
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<210> 888
<211> 516
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(516)
<223> n = A,T,C or G

<400> 888
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cagcctccta agaggccaca ctggcatgga atcaggtcat cagccctgca cgtggcatgt 180
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ctagcttaca agttatctga acttttaaaa atgcggtggt tttctttttt tggttgtggg 420
gtttttgtta gtccgcttgc tatcgtgtta tccctgccct atccttctcc taccctggac 480
cccagcctca tcctgctgaa gtgtgggcnn nnnnnn 516

<210> 889
<211> 197
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(197)
<223> n = A,T,C or G

<400> 889
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ctctgttgct ttgtataaaa tagggataat tatggtaata ccacagtttg ttttgatgat 180
taagagttga tacatat 197

<210> 890
<211> 1299
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1299)
<223> n = A,T,C or G

<400> 890
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atgatacaaa gtcctcttgg ggctgaaaat cacttcctat ttgcatggct ttactaactg 180
gtttctgttt tccattatct ttttcacaga aagtcttggt cagtattttt ccagcattta 240
aattgaaacg gtcagtatta gaccactgct aggttatgta gtcaagaaat aaaaatagaa 300
ttacatgcta cagatgtctt tattctcctt ccatctagaa aggagttcca aggtcaaatt 360
actttttagt gcaatagtta aatgacattt tgagatcata actcatatcc aaaaagttgc 420
agggaaaatt aaaatagctt tcccctatta agctaatggc aaacaaaact taagtggacc 480
cccacttcca gtggttgttt aggttgcagt tgtgaaaata tgctgccaac atttaaaaac 540
ttgtttcata tgtatatatg tatacacata tatgaatatg tatgtatata tacatatatg 600
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tgaaatgaga gccacatcta aagatttctt aaatcaagtt tggttcagct tccttagaac 720
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gccaccacgc ccggctgatt tttgtatttt tagtaaagat ggggtttcac catagtggtc 1260
aggctgttct cgaactcctg acctangtga tccaccnnn 1299

<210> 891
<211> 339
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(339)
<223> n = A,T,C or G

<400> 891
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tataactgaa gcaaaagctc gaagaaacaa cacttaactg tactacagga gttacacccc 180
atgcattttt aattccaatt ttgtgtgtgt gtgtgtgtgt gtgtgtgtct gtctgtgtgt 240
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<210> 892
<211> 1092
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1092)
<223> n = A,T,C or G

<400> 892
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cagtactcat aagaggtcca tctctaaatt gccctcctct tacttcttcc ccctgcctca 120
tgttttttct ctttaatgac tagcatcgaa actctttaaa tggggcaggc ctgtgttctt 180
atctcaggaa tagtaagaaa agggggttgg gaacagggga aatccagaat aaagacttga 240
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ggcaccttag gaagagaaag tgtcacagac acgaggccta ggctagagag atggtgtagg 360
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aaggaagaga gacctgcaca ggccggcact tagcttgtgg agaaggtcct aactcaacac 480
tgcaacttta agctggctta acttgtccaa gttccagatg accaacaaag acagctatag 540
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gacaacaacc cagcagcaga cgaggaaaca tacacgtacc ggagaagcac caacaataca 960
gcaagacacc acagcgaaca caaccacaag gagcacacac acgaagtaca ccacacccca 1020
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nnnnnnnnnn nn 1092

<210> 893
<211> 2040
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2040)
<223> n = A,T,C or G

<400> 893

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cagccagtcc cgctgcacac gctcgcagtc tgtgggccct ccgggaggcg gcggaggtca 180
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cggtctccgg tactggagcc ggcggctgcg gccggcagcc ggcagctttg cagcggtgtg 300
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tccaatggca aaaaatctca tgaaacatgg ctatccactt attatttatg atgtgttccc 420
tgatgcctgc aaagagtttc aagatgcagg tgaacaggta gtatcttccc cagcagatgt 480
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cagcactatt gatcctgcag tttcaaaaga attggccaaa gaagttgaga aaatgggagc 660
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ttttgactta agaatgacat ctttagacgc atttcagagc caatgatgat atttgcttta 1920
gataattatt atattattat aaatatagcc atattatttt gaattcaaat aaatttctat 1980
actggccgcc taggatgtaa acccgagtaa ctcgaacaat atggttataa atatataann 2040

<210> 894
<211> 2497
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2497)
<223> n = A,T,C or G

<400> 894
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gctcctgctg atcggcgact cgggggtagg caagacctgc ctcctgttcc gcttctcaga 180
ggacgccttc aacaccacct tcatctccac catcggaatt gattttaaaa ttagaacgat 240
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aagcgcaaaa tccagtgcaa atgtagaaga ggcatttttt acacttgcac gagatataat 600
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gcctttccct atttcagcac aatcttagac tcatatttgc acacttttgt gtcgtgaagt 1080
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<210> 895
<211> 3991
<212> DNA
<213> Homo sapiens

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gctgcccccc cggaggctct cgggcagggg ccgggatcga cgaggggggc ggcggaggtg 180
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taaattttgc aaactttact ttgcccactt tttattaata catacatagt aaaaagaata 360
tatttctcca tgaacttaat aatgcaaaag catccaaaga ttttaatgcc aattcacatt 420
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<210> 896
<211> 2497
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2497)
<223> n = A,T,C or G

<400> 896
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<210> 897
<211> 2664
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2664)
<223> n = A,T,C or G

<400> 897
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<210> 898
<211> 2084
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2084)
<223> n = A,T,C or G

<400> 898
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gtaactgctt ttggctgaaa accatttacc ctagagctag aaactttggg gacaataaga 180
aggttgtgac ctttctagta tatgccaaat acaagatttt tttttctttt tagtatgaaa 240
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tgaagaggaa gatgaccaag tgagttccta tgcagtattt ctatctttta tttttatcca 660
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<210> 899
<211> 2084
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2084)
<223> n = A,T,C or G

<400> 899
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aggttgtgac ctttctagta tatgccaaat acaagatttt ttttctttt tagtatgaaa 240
tacttttcac aaccgcattg tttgttgtat ggattcacaa aactaggacc atttggtatc 300
tgtcttcaga aagtttttac gtctgatatc cttgttggta accgctgttt ctaggggtat 360
catatcatcc catttaaaag aaatgcaaac tgcagagtat agagtgcagc tacacatata 420
tataatgggg tggatagttt atagtgtgct cattgctgct ttgttattat tagtgttgag 480
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gaacatttgc agggaagttt gtttctccgc ttgtttttcc aggggtattc gagatgacat 600
tgaagaggaa gatgaccaag tgagttccta tgcagtattt ctatctttta tttttatcca 660
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agggtgggag tccccatcta aaggaagagg aaacaaaagg aatagatgtt aacagatgat 2040
atcttagaat attttgaaat gaagataaac ttgtctgtca aann 2084

<210> 900
<211> 1566
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1566)
<223> n = A,T,C or G

<400> 900
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caaaaagcct gggacttcat gttaacgaag aggaacagga gaggccggtt ggagtgctga 480
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cgataccctg tggcctggca agtttgcaca gcgagaaggt ggcatctgga gcctcctttc 720
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cagtgc 1566

<210> 901
<211> 863
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(863)
<223> n = A,T,C or G

<400> 901
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<210> 902
<211> 197
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(197)
<223> n = A,T,C or G

<400> 902
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ctctgttgct ttgtataaaa tagggataat tatggtaata ccacagtttg ttttgatgat 180
taagagttga tacatat 197

<210> 903
<211> 197
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(197)
<223> n = A,T,C or G

<400> 903
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aggactctgg gttcctgtcc tacctcttgc acttgggcaa aggacttaac ctccttatgc 120
ctctgttgct ttgtataaaa tagggataat tatggtaata ccacagtttg ttttgatgat 180
taagagttga tacatat 197

<210> 904
<211> 1621
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1621)
<223> n = A,T,C or G

<400> 904
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tctaaataaa atctcaaaat ttacaataag ttgaatgtaa atgaatgcag acatgcggga 240
ttctatttag cagcataaat tgctgaaatg aaattcagaa aagaacacac aaggcagaca 300
aagacaaaag tattagagac aagaaaaata cgaaaacatg agtaaacagg cattttaaga 360
tcccctccgc agagtcaatt tcttagcata tttgaaacca ttaactatac ttttcttttt 420
cattatttta aggcaaattt gataaaatag tcagtggtga ggaagtatat agtgtgtttg 480
tggatttaat atattcatac tctttctcta aatgttctag acaactaaaa agctaagaaa 540
aaaacacatt ttagatattc tttatcttta aaaatacata taaatatgtg tactctatgt 600

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tgtttttat tgtgtgaaat tttattttac taataatatt tttaatatat tttaactaat 660
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a                                                                 1621
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<210> 905
<211> 1621
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1621)
<223> n = A,T,C or G

<400> 905

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tgtagtgttt tgagctcttt ggaaaaaagg actctacata aattaattag acaattcatt 180
tctaaataaa atctcaaaat ttacaataag ttgaatgtaa atgaatgcag acatgcggga 240
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aagacaaaag tattagagac aagaaaaata cgaaaacatg agtaaacagg cattttaaga 360
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cattatttta aggcaaattt gataaaatag tcagtggtga ggaagtatat agtgtgtttg 480
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aaaacacatt ttagatattc tttatcttta aaaatacata taaatatgtg tactctatgt 600
tgtttttat tgtgtgaaat tttattttac taataatatt tttaatatat tttaactaat 660
tatcataaat taagagtatt gtatccaaag cagccagaat attagatgtg gtcataaaat 720
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gacattcaaa tttggataga aataaaattt attttcataa gtcaatccta acacttgagc 840
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a                                                                 1621
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<210> 906
<211> 456

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(456)
<223> n = A,T,C or G

<400> 906
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atgttaattg agagatctcc gtatgaaaat attattatga aattgtactg aataattcag 120
aaattgttct catggtatct tctttggatg ctggcagtat tattttatta aaacaattta 180
atactggatg tagaacaatt cagctgtaaa atgctgagaa aaatctttta tattcactct 240
attcctcccg tgagatgtaa gagtgttcaa ctgttttcaa cgtcagttaa aactactctg 300
gcccataagc ataaatatgc aaggcaatac agatcatgtg acagtttgca ttcttggctt 360
gtactcagag aataatggct gaggtagaat attgctctaa acccacctga tacgtatgag 420
tttataaagg agaaagtgca tatctgatat gtannn 456

<210> 907
<211> 456
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(456)
<223> n = A,T,C or G

<400> 907
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atgttaattg agagatctcc gtatgaaaat attattatga aattgtactg aataattcag 120
aaattgttct catggtatct tctttggatg ctggcagtat tattttatta aaacaattta 180
atactggatg tagaacaatt cagctgtaaa atgctgagaa aaatctttta tattcactct 240
attcctcccg tgagatgtaa gagtgttcaa ctgttttcaa cgtcagttaa aactactctg 300
gcccataagc ataaatatgc aaggcaatac agatcatgtg acagtttgca ttcttggctt 360
gtactcagag aataatggct gaggtagaat attgctctaa acccacctga tacgtatgag 420
tttataaagg agaaagtgca tatctgatat gtannn 456

<210> 908
<211> 679
<212> DNA
<213> Homo sapiens

<400> 908
gcgtccggtt tgtttttcca aagtatgcct gttcaatagc cattggatgt gggaaatttc 60
tacatctctt aaaattttac agaaaataca tagccagata gtctagcaaa agttcaccaa 120
gtcctaaatt gcttatcctt acttcactaa gtcatgaaat cattttaatg aaaagaacat 180
cacctaggtt ttgtggtttc ttttttcctt attcatggct gagtgaaaac aacaatctct 240
gtttctccct agcatctgtg gactatttaa tgtaccatta ttccacactc tatggtcctt 300
actaaataca aaattgaaca aaaagcagta aaacaactga ctcttcaccc atattataaa 360
atataatcca agccagatta gtcaacatcc ataagatgaa tccaagctga actgggccta 420
gattattgag ttcaggttgg atcacatccc tatttattaa taaacttagg aaagaaggcc 480
ttacagacca tcagttagct ggagctaata gaacctacac ttctaaagtt cggcctagaa 540
tcaatgtggc cttaaaagct gaaaagaagc aggaaagaac agttttcttc aataatttgt 600
ccaccctgtc actggagaaa atttaagaat ttgggggtgt tggtagtaag ttaaacacag 660
cagctgttca tggcagaaa 679

<210> 909
<211> 704
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(704)
<223> n = A,T,C or G

<400> 909
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agcaatttca aaagataata aaaataagct atagcatatg tcctgaaaac tatttacaat 120
accatttaaa tatttttattc atatctatcc gaatattgac caggacacta atgccacact 180
gcagagttaa taatctgtgc attttcttta ccgtaatgga cagagtatgc tttcttagct 240
gcctgattca catttctcta aaaatgcttt atcggttaaa gctttcaacc agcttaaaaa 300
taatgcctct cccatgtctc catgagtgga aaaaaagcaa acaaaccttg tgtttaacaa 360
taaggtcagc atgacataca gcaacaagag ccagtaaatc gaaaatgagg ctgacattct 420
gggactaggc cagcagtcct gcaacagtct tccagactcc acagctgcat aaggctgtgg 480
acaagcttgg gcgcagcccc tgtgcctgtg acctgagctc tgccttggaa tgaggtcaac 540
tccaaggagg agaacaaacc ccttggtgtt tttctttgct ttggttatag gatattcaga 600
gaaggtatgt attgaataat ttctgccatg aacagctgct gtgtttaact tactaccaac 660
acccccaaat cttaaatttc tccaggacag ggggacaaat annn 704

<210> 910
<211> 1277
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1277)
<223> n = A,T,C or G

<400> 910
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tcaaatttgc aatcagtctt ttagaattaa gaaaacatta acaaaacacc tggttattca 180
ttctgatgcc cgacctttca actgtcagca ctgtaatgca acatttaagc ggaaagacaa 240
gctgaaatac cacattgacc atgttcatga aataaaatct cctgatgatc ctctcagtac 300
ttctgaggaa aaacttgtat ccttgccagt tgagtactca tctgatgaca aaatctttca 360
aacagaaaca aaacaatata tggaccagcc caaagtttat cagtcggaag ccaagacgat 420
gttacagaat gtatctgctg aagtatgtgt tccagtaact ctggttccag ttcagatgcc 480
tgacactccg agtgacctag tgcgtcatac taccacactc ccaccatctt ctcatgagat 540
tctgtcacca cagccacagt caactgatta tccacgagca gcggatttag cttttctgga 600
aaaatatact cttactcctc aacctgcaaa tatagttcac ccagttcgac ctgaacaaat 660
gctagatcct agagaacaat cttatcttgg aacattactg ggccttgata gcactactgg 720
tgttcaaaat atttctacga atgagcatca ttcatgagta aatctaaaca ttccacagat 780
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tcttctttag tctcattcct ctccttcttc ttgctagccc ttcttacaaa caagtttgag 1140
gaccatgtat cctttaacaa ggaattaaga gtacactgat aattgcaact gtttcttatc 1200
ctaagatgca atattacgtt gtacaaattt ttaaaattga aattaggaga ttgaatttac 1260
aagaatgcct tggatan 1277

<210> 911
<211> 1566
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(1566)
<223> n = A,T,C or G

<400> 911
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tgattttcag gcaaccttca gaaggcagag aagacgtctg cccttggctc ctgcactagc 120
gacttaaagg atgactcctg ttaagtttca ttatcctagt atcagcctga atggactagg 180
acacattttt attttaaagt ttgagctcta gcaatggagt cagacagcaa cacagcttgg 240
ggagccacct ctgtcaacaa gggaggagaa agttgagaag tgccatgaaa atgtccctgc 300
ttcatactgg gcctctcagc aaacttctct tgctgacagg aattatttcc ctctatgatt 360
gtatttttaa gaggcgccta gattatgatc agaagttgca ccgagatgac agagaacatg 420
caaaaagcct gggacttcat gttaacgaag aggaacagga gaggccggtt ggagtgctga 480
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taacagaatt ttgtgcagta gggaccagga gccctagtaa ggatgggtgg ccctggtggc 1260
cagcaatgct cactattact gctcagagag agggggccag tcatgggaag aggctagatt 1320
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ctgcccgggc ggccgctcga tttgctattg gagcacaacc tcttttggac catcaataca 1560
cagtgc 1566

<210> 912
<211> 1277
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1277)
<223> n = A,T,C or G

<400> 912
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tcaaatttgc aatcagtctt ttagaattaa gaaaacatta acaaaacacc tggttattca 180
ttctgatgcc cgacctttca actgtcagca ctgtaatgca acatttaagc ggaaagacaa 240
gctgaaatac cacattgacc atgttcatga aataaaatct cctgatgatc ctctcagtac 300
ttctgaggaa aaacttgtat ccttgccagt tgagtactca tctgatgaca aaatctttca 360
aacagaaaca aaacaatata tggaccagcc caaagtttat cagtcggaag ccaagacgat 420
gttacagaat gtatctgctg aagtatgtgt tccagtaact ctggttccag ttcagatgcc 480
tgacactccg agtgacctag tgcgtcatac taccacactc ccaccatctt ctcatgagat 540
tctgtcacca cagccacagt caactgatta tccacgagca gcggatttag cttttctgga 600
aaaatatact cttactcctc aacctgcaaa tatagttcac ccagttcgac ctgaacaaat 660
gctagatcct agagaacaat cttatcttgg aacattactg ggccttgata gcactactgg 720
tgttcaaaat atttctacga atgagcatca ttcatgagta aatctaaaca ttccacagat 780
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tcttctttag tctcattcct ctccttcttc ttgctagccc ttcttacaaa caagtttgag 1140
gaccatgtat cctttaacaa ggaattaaga gtacactgat aattgcaact gtttcttatc 1200
ctaagatgca atattacgtt gtacaaattt ttaaaattga aattaggaga ttgaatttac 1260
aagaatgcct tggatan 1277

<210> 913
<211> 1277
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1277)
<223> n = A,T,C or G

<400> 913
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aggcaaatca agtctggaaa tgcattttcg aacgcattca ggtgaaaaac catacaagtg 120
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ttctgatgcc cgacctttca actgtcagca ctgtaatgca acatttaagc ggaaagacaa 240
gctgaaatac cacattgacc atgttcatga aataaaatct cctgatgatc ctctcagtac 300
ttctgaggaa aaacttgtat ccttgccagt tgagtactca tctgatgaca aaatctttca 360
aacagaaaca aaacaatata tggaccagcc caaagtttat cagtcggaag ccaagacgat 420
gttacagaat gtatctgctg aagtatgtgt tccagtaact ctggttccag ttcagatgcc 480
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tctgtcacca cagccacagt caactgatta tccacgagca gcggatttag cttttctgga 600
aaaatatact cttactcctc aacctgcaaa tatagttcac ccagttcgac ctgaacaaat 660
gctagatcct agagaacaat cttatcttgg aacattactg ggccttgata gcactactgg 720
tgttcaaaat atttctacga atgagcatca ttcatgagta aatctaaaca ttccacagat 780
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ctaagatgca atattacgtt gtacaaattt ttaaaattga aattaggaga ttgaatttac 1260
aagaatgcct tggatan 1277

<210> 914
<211> 282
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(282)
<223> n = A,T,C or G

<400> 914
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gtgtgtgtgt gtgtgtgtgt gggtgtgtca cacaaagaga gagagagaga gtgagagtgc 180
gtgactcttt ggacatttgc tgtttattta taatgcgacc ccagatatgg agtttcagtg 240
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<210> 915
<211> 321
<212> DNA
<213> Homo sapiens

<400> 915
accatttcta ggcttcttaa agcggacagg atatgcacat gtctgtcctc cataccgtgt 60
tcattatgtt ctaaaagttg gatcccatca gtttgtttta tagaatgaag acaggtgtgt 120
gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt cagagagaga gagagagaga gagagagaga 180
gagactttca agacctttgc aaataatttc cactgtgacc ccagctctgc agtctcattg 240
gccaatgctt gggttcctgc atctgatatc ctgggtatct acaactgttc atctttttca 300
accatacctc tatgtatgca t 321

<210> 916
<211> 3470
<212> DNA
<213> Homo sapiens

<400> 916
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aaattggata gaaggaattg aagagttgta agtagtgatt agtctgctaa tcagttcttc 120
agatgagata ttgaatggta acactctgag cttaaaactc agcagtgtgt ctgtgacctc 180
cacgcaaatc agaggaagca atgcatccac gctgagcctc accatgtctt cctcccaact 240
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<223> n = A,T,C or G

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<211> 2763
<212> DNA
<213> Homo sapiens

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<223> n = A,T,C or G

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cgn 2763

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<212> DNA
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<211> 1727
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1727)
<223> n = A,T,C or G

<400> 942
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aaaaacaaat caattttctt cttggcataa agtgtttcat tattataggg gtgttcattt 180
taaatagttt aaaaacaatt gcagcacatt ctaagcataa gagaaagtta ttgacaacag 240
gtaccttcct aatctcccaa gacgtactta ctcatttgtg aagtattaaa gtaagaggta 300
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agaattttaa gctttagcc ttcagtggaa tgcacatatt ggacatgtgc atgtgaacac 420
ctttttcagt agcactcacg gatttccatt cgattgtata gaatgaatac aagtgtttta 480
gtggaatttg ctacttaatt tttaatcttg cgatgtccgt gattattaca tgcttactag 540
tgttgtggac attgaagaca aggtcattcg taggtgtcag attacaatgg agaacaaaaa 600
tcgttttccc cccacccaca tccaaacacc attctcgagc gagcatttct tgcaaaacac 660
cttacatttc atttctatc tttgcacttt ttcttaagta cagaaaagtt gtctttaaga 720
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<210> 943
<211> 2288
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2288)
<223> n = A,T,C or G

<400> 943
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gcggtgaaag cgccagccct atggcgcggg tcgcgtgagg cggaaggccg aggacggccg 180
gcggcggcgc ccgccccggc gatgcgggcc ccgcccgtcg cctcaggtgc catttggatt 240
gtactttagt ggcacgatgt actctgagtg gaggtcactg catttggtga ttcagaatga 300
tcaaggccat accagtgtgc tgcacagcta tccagagagc gttggacgag aggtggcaaa 360
tgctgtagtc cgtcctcttg ggcaggtgtt aggtacccct tcagtggctg gtagtgagaa 420
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ccttccattg gatggagaga ctgtaaaata ttgcgttgat gtatatacag actggattat 540
ggctttagtg ttgccaaaag attctattcc attgccagtt attaaagagc ctaatcaata 600
tgttcaaact atactaaaac acctacagaa tctttttgta ccaagacagg aacagggttc 660
cagtcagatt cgactatgct tacaggtcct gagagccatt cagaaactgg cccgtgagtc 720
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accaannn 2288

<210> 944
<211> 314
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(314)
<223> n = A,T,C or G

<400> 944
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ccaattttac ccaagaccag gaactcctgc tgcaaaaatg gaacaagttc cagcacaagt 120
gattggtgaa agacaacaag tgttagtaac agaagaatct tttgattcca agttttatgt 180
tgcacacaat caattctatg agcaggtttt agtgccaaag aaccctgcgt tcatggggaa 240
gatggttgaa gtggacatct atgaatcagg caaacatttt atgaaagggc agccagtatc 300
tgatgccaaa gtgt 314

<210> 945
<211> 718
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(718)
<223> n = A,T,C or G

<400> 945
tacatcccag aatcgttttg gatctgttaa ggtttttatt agaatgatta aataggcttt 60
tgcagcatta actttacagt agttaccaga aaagactatg ctacaagaac caaaattgaa 120
gtaagaagaa aaagactgaa atgatatgat tctaaatgaa aaaaatgaag aagtggaata 180
gtttctccac aggcataaga ggcaaagcat tgtttcagaa gtggactggc acctcacctg 240
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cggagagatt ccctagctct aatgacagat tttttggggg gtaatgaggc tatgagaaga 360
ttgaggatct aggtacttgc ctttaactct acagcataca aggtgtgtgg ctcttatctc 420
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agaatttagt taatgttgga aactttgtaa tataaacaat gtaaacacta cattgacaaa 540
aatattttat taatacaaag aatatgcata tagtttgctt actacagaaa ttcttgtttt 600
tgatgtagac aacccaaagg agtttttatg tatatagatt gtgaataaat tgggaaaaga 660
aatagagata agtagagatt atttcacttc attaaacttt tgaagtccnn nnnnnnnn 718

<210> 946
<211> 718
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(718)
<223> n = A,T,C or G

<400> 946
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tgcagcatta actttacagt agttaccaga aaagactatg ctacaagaac caaaattgaa 120
gtaagaagaa aaagactgaa atgatatgat tctaaatgaa aaaaatgaag aagtggaata 180
gtttctccac aggcataaga ggcaaagcat tgtttcagaa gtggactggc acctcacctg 240
agatactcaa gactggcaac atgggtctac attctttgtt accacagatt cccttgtgtc 300
cggagagatt ccctagctct aatgacagat tttttggggg gtaatgaggc tatgagaaga 360

ttgaggatct aggtacttgc ctttaactct acagcataca aggtgtgtgg ctcttatctc 420
taggacacca atatttaatg ttgcatatca tgtatctcca gtacaagaag aaagtttatc 480
agaatttagt taatgttgga aactttgtaa tataaacaat gtaaacacta cattgacaaa 540
aatattttat taatacaaag aatatgcata tagtttgctt actacagaaa ttcttgtttt 600
tgatgtagac aacccaaagg agtttttatg tatatagatt gtgaataaat tgggaaaaga 660
aatagagata agtagagatt atttcacttc attaaacttt tgaagtccnn nnnnnnnn 718

<210> 947
<211> 523
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(523)
<223> n = A,T,C or G

<400> 947
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gaaagggaca ttgttttctt tctaaatcat aaagctctgc tgatttgttt ttactgattg 180
tcttgtgcat aaaacatttt agcctgtacg ctgtcatcca taggcaatga ttgtaacctc 240
tgtattgtac cctccaatgg aaaaggataa ctccgatatg aggagtcccc cttccttctc 300
ctaaacagtc ttataaaaag catttccaac ttgtaacaga tgttggaaca tgcccaactt 360
tgttggtgta tcttactgga taaattctca catttggctt ccaataaact tttatcaatt 420
taaaaaaaaa aaagaataaa aaaaaaaaaa ataaaaaaaa aaaaaataaa aaaaaaaaaa 480
aaaggtttgt ccaaaaaaaa aaaaaaaaaa gctttacccn nnn 523

<210> 948
<211> 4246
<212> DNA
<213> Homo sapiens

<400> 948
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gcttttctac aagcccaaat tgctgaactt caggaagact ttgaatccga gaaggcttca 120
cggaacaagg ccgaaaagca gaaaagggac ttgagtgagg aactggaagc tctgaaaaca 180
gagctggagg acacgctgga caccacggca gcccagcagg aactacgtac aaaacgtgaa 240
caagaagtgg cagagctgaa gaaagctctt gaggaggaaa ctaagaacca tgaagctcaa 300
atccaggaca tgagacaaag acacgcaaca gccctggagg agctctcaga gcagctggaa 360
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<210> 949
<211> 5431
<212> DNA
<213> Homo sapiens

<400> 949
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<211> 421
<212> DNA
<213> Homo sapiens

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<212> DNA
<213> Homo sapiens

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<223> n = A,T,C or G

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<210> 952
<211> 1901
<212> DNA
<213> Homo sapiens

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<210> 953
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<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3099)
<223> n = A,T,C or G

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<210> 954
<211> 2976
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2976)
<223> n = A,T,C or G

<400> 954

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&lt;220&gt;
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&lt;222&gt; (1)...(1978)
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<210> 956
<211> 2210
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2210)
<223> n = A,T,C or G

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gcaactcaag acacctgcag cagggcgtga gaaaaagtaa aagaccagta ttttcacatt 180
gccaggtacc agaaacacag aagactgaca cccgccactt aagtggggcc agggctggtg 240
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<210> 957
<211> 2100
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)...(2100)
<223> n = A,T,C or G

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aagttttgaa tggtgtacag acagaactac taacttcgcc aagaactaag gacacattga 180
gtgatatgac aagaacagtg gagatttctg ggaaggaggg cccattggga atacatgtag 240
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acaatgtgga tctcgtagac aaaacctttg ctcaggctca agatgtcttc cgccaggcaa 420
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<210> 958
<211> 4967
<212> DNA
<213> Homo sapiens

<400> 958
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atatgttaaa cactttgtat gacagatgca tccgacagca ttaactcaag cataccctga 180
gaatgactgt atggtctaag aagaatatgt gttcagagtc taagctaagg aatccgggaa 240
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<210> 959
<211> 2041
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2041)
<223> n = A,T,C or G

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gaagaatgct cctggctgtt ttgtactgcc tgctgtggag tttccagacc tccgctggcc 180
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n 2041

<210> 960
<211> 3099
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3099)
<223> n = A,T,C or G

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<210> 961
<211> 1372
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1372)
<223> n = A,T,C or G

<400> 961
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gccatagctt taatcaggaa aacacacatc ttatcccact ttgcacagac cctcctgaag 180
tgcagaagat actaggagga ggcatggggg gagcagatgg aggaagaatg aaaagcagtc 240
caaagaatca ttctctcact tgggaaggac agaagaaagc tgtaccccag cagtgtcaag 300
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agctaataga gggagatctt acaacacatt tctcaatcta gattcatgtc ttgagacccc 420
accccaagat caaaagctcc ttagtctctt cctctgccca cctcattctt caggccctct 480
ctcaaggacc taatcccttc aggatcctaa taaaatgaac aacattgggg ggaaaaaagg 540
taaaccttta tttggaaaaa gagtttaaat aacaatttaa aaccccattt cactttcaaa 600
acagaaacaa gaaagcaagg aaaagataat ctatcaagca tctgccctct gctgtggtta 660
gccattttaa agctgcattt cccagcagaa gagaacagtg atgggcccta gtcctaggaa 720
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aagaacctta acccctggct tactgtcccg aactcaagtc tcttgaccac tgtcttcagt 1020
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tgaactaggg agatgtgtgg agaggctggc caggatctcc caagtcaaac ccagcattga 1140
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atttgtcaga cacttcgtag gattgcggca atacagttca gaggattagg acggatgggt 1320

cgattaatgt gagggacaat ctcgatttgg aggtattgtt ctactggcca nn 1372

<210> 962
<211> 3303
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3303)
<223> n = A,T,C or G

<400> 962
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ggacgaaaaa cggggggcca gactgttgtg gctgtggtgg agacgagaaa ccaggaagaa 120
gaggctcgcc tcccactcgg cgaccgtaag cgaagcagcc gaaggcgagc gccgacatca 180
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gcagcagggg cgggactgga gaggggcccc gcgcgcggat ctcgcgagag cattagaggg 300
cggaagcgct atccgagcag gatgcggttc gtggttgcct tggtcctcct gaacgtcgca 360
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gcgcagaccc cagaagacac ccccaacaag tcgggtgcgg aggcaaagac ccaaaaagac 600
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nnn 3303

<210> 963
<211> 982
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(982)
<223> n = A,T,C or G

<400> 963
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cgagcgctcc ctcaacactg acgtgctctt tggctgctcc cgggaggtga gggctgtgtg 180
gtttggtctc tctgcgcatg gggtgttgac cagtgcacca ccagtagcta gtgggttgct 240
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cagactçggg ttgtaagttc atgctgtttc ttgctctgct gagggtggct tggggttttc 360
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aagaccccac aggaggatta cgtggaggct gcagtgaagc agtccttgca ggtgcacctg 720
tcgggggccc ctggagacat ccttatcttc atgcctggcc aagaggacat tgaggtgacc 780
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gggcgtggga agtgcattgt tgccaccaat attgccgaga cgtctctcac tgttgacggc 960
atcatgtttg ttatcgannn nn 982

<210> 964
<211> 2100
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2100)
<223> n = A,T,C or G

<400> 964
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aagttttgaa tggtgtacag acagaactac taacttcgcc aagaactaag gacacattga 180
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agtcagtcat tggctctctt aacatttttg gtaataatga tggcgttttg aaaaccaaag 540
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gtcctgaaac agatgcatca gcttccctgc aacaaaacaa gagtccccga gtaccaaggc 660
tgggaggaaa accatcctct ccctcactct cgcctctcat gggatttggc agcaataaaa 720

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atgaagatcc agaaaggaaa ataaagaaga agggcttcgg cgccatgctg agatttggaa 2040
agaagaaaga ggataagggt ggaaaggctg agcagaaagg tactctgaaa cannnnnnnn 2100

<210> 965
<211> 2952
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2952)
<223> n = A,T,C or G

<400> 965
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gaaatttccc aatcaattca ttccatcctt cccgccgcgg ttcccttaca acacccgttc 120
acccccccctt ttgtacccct ttccgttcct accttccttc ttcctgcccc cacaagttaa 180
ctttcgggcc agccccccaa ttttgttttg taaattttaa catgcattta ttaaatttat 240
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aaatcttgaa gtattttgct accttaaaac aactacccac cctacatttg tactaaaata 420
ggcttttgct tgttttaaaa gcaattctag atgaggttat atttttacaa tactgtatct 480
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<211> 928
<212> DNA
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<211> 3053
<212> DNA
<213> Homo sapiens

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<212> DNA
<213> Homo sapiens

<220>
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<210> 969
<211> 577
<212> DNA
<213> Homo sapiens

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<210> 970
<211> 5670
<212> DNA
<213> Homo sapiens

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<211> 5456
<212> DNA
<213> Homo sapiens

<220>
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<212> DNA
<213> Homo sapiens

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<210> 973
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<212> DNA
<213> Homo sapiens

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<210> 974
<211> 3079
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)...(3079)
<223> n = A,T,C or G

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<211> 1566
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1566)
<223> n = A,T,C or G

<400> 975
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<211> 2044
<212> DNA
<213> Homo sapiens

<220>
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<223> n = A,T,C or G

<400> 976

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atgacaagag aagaaagaaa aatggaagca atttggcaag cttttgccag acttgacaca 1980
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nnnn 2044

<210> 977
<211> 1566
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1566)
<223> n = A,T,C or G

<400> 977
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cagtgc 1566

<210> 978
<211> 1116
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1116)
<223> n = A,T,C or G

<400> 978
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caaatggtat atttatttaa actccccgt gctttaggtg gcaccaccac gttgtgtgca 240
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<210> 979
<211> 1116
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1116)
<223> n = A,T,C or G

<400> 979
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caaatggtat atttatttaa actccccgt gctttaggtg gcaccaccac gttgtgtgca 240
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<210> 980
<211> 1954
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1954)
<223> n = A,T,C or G

<400> 980
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tatatttact aggggaaatt gtgcgtctcc ctattctgag tcttggcagg aatggactgg 180
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gtcaataaaa cattctgttt aagtgttaaa cttacgcggt aatacccgtt ttggcggact 1920
cccttcgcac acaaattttt cccccacagc tccn 1954

<210> 981
<211> 164
<212> DNA
<213> Homo sapiens

<400> 981
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aaaatcattg tcttaaaagc agagcctgag acaggcatga agtg 164

<210> 982
<211> 4033
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(4033)
<223> n = A,T,C or G

<400> 982
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gcccaacaac tatctcatca ggacagagcc agaacaagga accctctatt caccagaaca 540
gacatctctc catgaaagtg agggatcatt gggtaactca agaagttcaa cacaaatgaa 600

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<210> 983
<211> 2919

<212> DNA
<213> Homo sapiens

<400> 983
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<210> 984
<211> 1181
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(1181)
<223> n = A,T,C or G

<400> 984
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aggcgggcgg catttaggct cggtctccac agccatggcc gcgacgcagg agctgctgct 180
gcagttgcag aaggataacc gagatggtcg ccagcggaag caggagctag agaagctgat 240
gcgcgggctc gaggccgaga gcgagagcct gcctcaacca gcgcctgcag gacctgagcg 300
agcgggagcg gaggctgctg cggaggcgaa gccaggaagc gctgcttctg caaggggagg 360
tgcgcgaggc ggcgcgggag cgcgcgcagc gggtgcgcag aagactggag gaggcggagc 420
gccacaagga ggacttgaag cccggtaaac cccgtcctta cgagccccgc ccctagctct 480
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tggtgacgct gcagaatgaa ctggagctgg cggagaccaa atgcgccttg caggaggaga 600
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gcctaataaa ctcaagggat gaannnnnnn nnnnnnnnnn n 1181

<210> 985
<211> 1351
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1351)
<223> n = A,T,C or G

<400> 985
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gcggcgacca tggcgtatca cggcctcact gtgcctctca ttgtgatgag cgtgttctgg 180
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gcccaactca accctctctt tggaccgcaa ttgaaaaatg aaaccatctg gtatctgaag 360
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gttttggcca ttagctgcct taaacgttaa cagcacattt gaatgcctta ttctacaatg 540
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ccccattatt ttcactcggg aagagccctg c 1351

<210> 986

<211> 2961
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2961)
<223> n = A,T,C or G

<400> 986
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gctgcagccc gcaggaatga aaatccactt ctccgcattt tcgaggtgac ctggaagcgg 120
ttcaactgct ctggcttctc agaagaggag gggaccgggc ggtaacgagg agccaagggg 180
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gcctccagac atgcgcagta gcctcccccg cggtggcggc ggcggcggcg gtggctgccg 300
tggcggctga gagtccagag ccggacgttc cggccgcttc gggctggcgg ctggagagcg 360
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ccgccgggag gctgctgtac gacatgtttg tgaatttccc agaccagccg gtggtgtgga 600
gagaaatcag cattattaca tcagcattaa ggaacgattc acaggacaaa caaacccaat 660
ttttaagaag tttatttgaa actcttcctg gtcgagtcca gtgtgaaatg ttactaaagg 720
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atagcgaaga ggcccgaccn n 2961

<210> 987
<211> 1797
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1797)
<223> n = A,T,C or G

<400> 987
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cgcccccccc cccaggagtt tggggtctta acaagagtcc cttgccgtga tggggttggc 120
caacccatgg ttatttgtac cgtccaaagt gccacccatg aagtgtcccg ccaattcaca 180
agccgactta cttccagacc agtcatcctg cttctgcggg ccccagtgcc acggtactgt 240
cctgagtggt ttggaaggtg ggtagccgct gatacaggga caggcagatg tgcagacact 300
taccaccctg gtccaccgat cccaccccat gcttccacct cccagagctc ttgagataag 360
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aggacccaat agttgttact acaaaagtgc ttttgcaaat agggcaagtt agaagaagga 480
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gtgcagagcg cgaagagccc cggcaagaag tgcgcgcccc cggccagcgt cagcagcatc 1740
ggggctgcgg gtccggccgc ctctctgaca ccgtgtggct gggttcggct cggcgcg 1797

<210> 988
<211> 2169
<212> DNA
<213> Homo sapiens

<400> 988
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tggcccgtaa gctggtcatc attgagagcg acctggaacg tgcagaggag cggctgagc 120
tctcagaagg caaatgtgcc gagcttgaag aagaattgaa aactgtgacg aacaacttga 180
agtcactgga ggctcaggct gagaagtact cgcagaagga agacagatat gaggaagaga 240
tcaaggtcct ttccgacaag ctggaggagg ctgagactcg ggctgagttt gcggagaggt 300
cagtaactaa attggagaaa agcattgatg acttagaaga gaaagtggct catgccaaag 360
aagaaaacct tagtatgcat cagatgctgg atcagacttt actggagtta aacaacatgt 420
gaaaacctcc ttagctgcga ccacattctt tcattttgtt ttgttttgtt ttgtttttaa 480
acacctgctt acccctttaaa tgcaatttat ttacttttac cactgtcaca gaaacatcca 540
caagatacca gctaggtcag gggggtgggga aaacacatac aaaaaggcaa gcccatgtca 600
gggcgatcct ggttcaaatg tgccatttcc cgggttgatg ctgccacact ttgtagagag 660
tttagcaaca cagtgtgctt agtcagcgta ggaatcctca ctaaagcagg agaagttcca 720
ttcaaagtgc caatgataga gtcaacagga aggttaatgt tggcacaatc aggtgtggat 780

tggtgctact ttgaacaaca ctaatttatt ttgtcttgag ttttactaca agatgagact 840
atggatcccg catgcctgaa ttcactaaag ccaagggtcg agcggccgcc cggcaggta 900
catgcatttg aatgacattt taggaacagt aaatattctt ttaaatactg caagttaaaa 960
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gtacacttta tatatatatg ggttaacatt ctgctatata tcatttcatt cgttttgaga 1920
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tatatgtgag tcattgcagt atttcattat acagcccttt cttcccatta tttatttttt 2040
tgcaataagt cattttgacc caaatccagc ataaatagct tttcaccaat tcctaactta 2100
agacaactaa aatttacatc atgtggcagt ataaatttta aaattacagt tcgtacactt 2160
tgacatcaa 2169

<210> 989
<211> 1014
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1014)
<223> n = A,T,C or G

<400> 989
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aggaaccgtg gctcacacct gtaatcccag cactttgaga ggctaaggca aatagatccc 120
ttgactccag gagtttgaga ccagcctgag caacatggta aaacccccatc tgtacaaaaa 180
aaaaaaaaac tggcctgggc gacagaacaa gaccctgtnn nnnnnnnnnn nnnnnnnnnn 240
nnnnnnnnnn nnnnncctca gttttctaat taaattctaa catgaggcaa gcaactttac 300
ctgcaaagtt ttagtatgtg aatctaccaa caaacaaaac aaaactccat tttgcatcat 360
tatccaagat tgagaataaa aggatctgac aaatttatcc tcacacataa aggtactaga 420
aggtcaagtt agagatctaa tgagaaagtg atatacatac tacataattg ttctgttggt 480
taatatgccc aaaataatag ttactatcat tacatcttac agaaacaaaa actttaagct 540
tattactttt cagaaggaaa aaagtatcct ataactgaaa ataattttcg ccacaatagc 600
aaaatagaaa aaataaatct tcctgaaaca ttagcaagag attttagttt ttatttgttt 660
aaagagtata ggtggtggtt tcaagaaaag acttttgcta aaagcagcta gcaataagat 720
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gttgcaatct tgggcaggaa aatcactaat aacaggaaac agaggccggg cacggtggct 900
aacgcctgtc ttcccagcac tttgggaggc tgaggtgggc agatcacaag gtcaggagtt 960
tgagaccagc ctgaccaaca gggtgaaacc ccatctctac taaaaatann nnnn 1014

<210> 990
<211> 5168
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(5168)
<223> n = A,T,C or G

<400> 990
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tggaagtgtc accattgcag cctgtaaatg aaaatatgca agtcaacaaa ataaagaaaa 180
atgaagatgc taagaaaaga ctgtctgttg aaagaatcta tcaaaagaaa acacaattgg 240
aacatatttt gctccgccca gacacctaca ttggttctgt ggaattagtg acccagcaaa 300
tgtgggttta cgatgaagat gttggcatta actataggga agtcactttt gttcctggtt 360
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gtcgaaatgg ctatggagcc aaattgtgta acatattcag taccaaattt actgtggaaa 660
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<210> 991
<211> 1036
<212> DNA
<213> Homo sapiens

<220>
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<223> n = A,T,C or G

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attacaacag caagccgcat tctttcagcc tcagtttcta aacccagcct tttgcctca 1020
ttttcctatg annnnn 1036

<210> 992
<211> 698
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(698)
<223> n = A,T,C or G

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atttcctctg gcccctgaag ctattcgggg tggtgggatg gatggttcca aggatttttg 180
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gctgtgtggc ttggtattgg tgggcttgtt gctgtagtat ctggagttga gtttgaccaa 480
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cttctggggt cataggtaaa tgaggcaaaa aggcnnnn 698

<210> 993
<211> 3805
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)...(3805)
<223> n = A,T,C or G

<400> 993
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<210> 994
<211> 1974
<212> DNA
<213> Homo sapiens

<400> 994
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<210> 995
<211> 1125
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1125)
<223> n = A,T,C or G

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<210> 996
<211> 1500
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1500)
<223> n = A,T,C or G

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<210> 997
<211> 2961
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2961)
<223> n = A,T,C or G

<400> 997
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atagcgaaga ggcccgaccn n 2961

<210> 998
<211> 321
<212> DNA
<213> Homo sapiens

<400> 998
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gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt cagagagaga gagagagaga gagagagaga 180
gagactttca agacctttgc aaataatttc cactgtgacc ccagctctgc agtctcattg 240
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accatacctc tatgtatgca t 321

<210> 999
<211> 1517
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1517)
<223> n = A,T,C or G

<400> 999
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cagagagaag gttgccatgg ctgctgttga cagtttctac ctcttgtaca gggaaatcgc 180
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ttccctttag tnnnnnn 1517

<210> 1000
<211> 982
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(982)
<223> n = A,T,C or G

<400> 1000
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cgagcgctcc ctcaacactg acgtgctctt tgggctgctc cgggaggtga gggctgtgtg 180
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<210> 1001
<211> 2439
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2439)
<223> n = A,T,C or G

<400> 1001
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<210> 1002
<211> 5092
<212> DNA
<213> Homo sapiens

<400> 1002
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tagtagtata ataaaataga atatccaagt gcaaaaacaa ttttcaagta agtacacaca 180
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cctgcagccc cgggcccgga ggcaaggagg cagcgaccgc caccgccgca gaggacaatc 5040
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<210> 1003
<211> 1797
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1797)
<223> n = A,T,C or G

<400> 1003
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cgcccccccc cccaggagtt tggggtctta acaagagtcc cttgccgtga tggggttggc 120
caacccatgg ttatttgtac cgtccaaagt gccacccatg aagtgtcccg ccaattcaca 180
agccgactta cttccagacc agtcatcctg cttctgcggg ccccagtgcc acggtactgt 240
cctgagtggt ttggaaggtg ggtagccgct gatacaggga caggcagatg tgcagacact 300
taccaccctg gtccaccgat cccaccccat gcttccacct cccagagctc ttgagataag 360
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ggtaatatga atattcttta gaaaaactca aatccatcgg cttatcaata cccaaagtct 540
gaggctaccc agggcacaat ttggtccatg gaatgctgag tggaggaggc agctggtgtg 600
aggctgcgcc tgactcccag gagcatttag ccatcctttt tggcttgggg agtgtcaaag 660
agccggactg ccttcctgca cagcagacag aaccagtaga tctgaggagc tacgaggaag 720
gcattggcca cgttgcagta gaatgggatg ctgaagggta cttggagcag gcttagtccc 780
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gagggagcag cccccgggct tcctgccgcc cccctttcc gccctgggcc ccgcggccgg 1560
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gtgcagagcg cgaagagccc cggcaagaag tgcgcgcccc cggccagcgt cagcagcatc 1740
ggggctgcgg gtccggccgc ctctctgaca ccgtgtggct gggttcggct cggcgcg 1797

<210> 1004
<211> 948
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(948)
<223> n = A,T,C or G

<400> 1004

nncggtcccc gtcgaacgga agaagagcgt ttccacctca cgtgtgtaca cgccccacaa 60
cgcccccatc cgggttgacc ccgtttttg ccacccccc cacgttgacc tttgaacccg 120
tactgcagtc gtaaaaataa gcgacctctc aaatttcctt caatcaggcc agaaattatc 180
accaaaatta taatcacagt tacaaacaga atgagtggaa tgtttgtaag tttaggacaa 240
ccaaaaagcc ccatgtaact ttttaaaaat ataatcattc actcaaatat actgtaaata 300
ggaatggcag taacacagga agcaaaaata aacttgcaag tgaaatttct agaagctcat 360
gaaacaatac catcccatat tgcagataca aaaggaaaaa cagttctaat ggggttaaga 420
gtactctggt catcttcgtt cgtttgtcgt gcaaggtgtt aactattttc acttcccata 480
tcacaaagtt agtccacagg aggagctggt ggatcttgtc cattatgagg actggttggc 540
tttccaggta ggctggatcc tcttagatta ggaggtctca gtaagaacaa gatcaatgca 600
ataaccatcc aggctaccaa gatcattgta acactgatgc cattatcacc agagggtccc 660
ggtaattcct gaagacactc tgtgtctgtg cagtaggact gggactgccg taacagattg 720
atcagtcttc tcattgcatg ttcatgagag caaacacatt cacagggatc aaatccacct 780
tctgccatga ttacccagct tgattttact tgactgttta aatccgccca gacaacaacc 840
gatggggcgg ggaggatggg ggccgggacc gaggctcggc agaaagaccg cctggagctt 900
ccagaaggct gcggctgctc cggacgctgc tgccactgcc gnnnnnnn 948

<210> 1005
<211> 1139
<212> DNA
<213> Homo sapiens

<400> 1005
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gtgaactaaa gcaacgagtt actgactgcc catacgccca tcataaatga tggtaagcat 120
aggataatgg ctttagacag ttttattcaa aaagagagaa attgggaggc acccagcaaa 180
cactggtcta taacatttct gaattccagt cagatatgtg ttgatgattt cttgataagg 240
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ttcctttgc ataaaaactg gcctgtgggc tctgtgtgca gccaagtagc cttcttatcc 360
tgcttcgtgc ccatgaaagg ttaggggatc agggcaggaa ctggaaagct ttcttgtaa 420
attaaggcca tatagtaaat attttaggtt tagcaggaca tgcggttttt gttgaagcta 480
ctcatctttg ctgttaaaaa tgaaagcagc catagacaat aggcaaatga atgaatatga 540
ctgtgtccca gtaaaacttt atttacaaaa acaggtggtg ggctggattt ggtatatagg 600
ctctggtttg ctgacccttg atatagcagt ctcttcattt ttttttcttg tctatccctt 660
tacatgtaat ctgacatgat tgcttaaaaa ttgtgtgagt ttccggtgta tctgttttca 720
aggaatccag cctattagac gaaagccata cccataagtt tctttgacac aaacccttct 780
ctatcttggg tcccctgtga ggttcctatg ggacagcact tttagatctt aaatccttgc 840
cccttagatc ctgccttttg aacaataaga gtttctgtta cacatttctt taagatctgg 900
agagtgcctt ttgtctgtct gaaagttctg gaaggcactg cctaggtctt tctaaagtct 960
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ctggctgaca ttttacattt cctccaaatt ccactcaaat agttcatttt tttaagatca 1080
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<210> 1006
<211> 2439
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2439)
<223> n = A,T,C or G

<400> 1006
ntatagggag tcgacccacg cgtccgggct tcggccggct aagccgcggc cacccgcggt 60
ctgagggacc ggaggagcgg ggccgggagc tgcgaggagc cctccagacg tcgccgagcg 120
cgagggcggg cgtgctcgga gtggtcgctc gtcagccgcc gcccctcagt ctccgcactt 180
gcaggtcccc tccctctccg ccgggacgcg ggagagcccg gctcgcggcg gggcggcca 240
atgcgaaact ggctggtgct gctgtgcccg tgtgtgctcg gggccgcgct gcacctctgg 300
ctgcggctgc gctccccgcc gcccgcctgc gcctccgggg ccggccctgc agatcagttg 360
gccttatttc ctcagtggaa atctactcac tatgatgtgg tagttggcgt gttgtcagct 420

cgcaataacc atgaacttcg aaacgtgata agaagcacct ggatgagaca tttgctacag 480
catcccacat taagtcaacg tgtgcttgtg aagttcataa taggtgctca tggctgtgaa 540
gtgcctgtgg aagacaggga agatccttat tcctgtaaac tactcaacat cacaaatcca 600
gttttgaatc aggaaattga agcgttcagt ctgtccgaag acacttcatc ggggctgcct 660
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caggtgaaca agctgtggta caagcccgtg gaacaattca tcttaccaga gagctttgaa 900
ggtacaatcg tgtgggagag ccaagacctc cacggccttg tgtcaagaaa tctccacaaa 960
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gagtaccccga gccccgctta ccctgccttt gcatgtgggt caggatatgt gatctccaag 1500
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gtaagcatgg gcatctggat ggctgccata ggacctaaaa gataccagga cagtcagtgg 1620
ctgtgtgaga agacctgtga gacaggaatg ctgtcttctc ctcagtattc tccgtgggaa 1680
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<210> 1007
<211> 1014
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1014)
<223> n = A,T,C or G

<400> 1007
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aggaaccgtg gctcacacct gtaatcccag cactttgaga ggctaaggca aatagatccc 120
ttgactccag gagtttgaga ccagcctgag caacatggta aaccccatc tgtacaaaaa 180
aaaaaaaaac tggcctgggc gacagaacaa gaccctgtnn nnnnnnnnnn nnnnnnnnnn 240
nnnnnnnnnn nnnnncctca gtttctaat taaattctaa catgaggcaa gcaactttac 300
ctgcaaagtt ttagtatgtg aatctaccaa caaacaaaac aaaactccat tttgcatcat 360
tatccaagat tgagaataaa aggatctgac aaatttatcc tcacacataa aggtactaga 420
aggtcaagtt agagatctaa tgagaaagtg atatacatac tacataattg ttctgttggt 480
taatatgccc aaaataatag ttactatcat tacatcttac agaaacaaaa actttaagct 540
tattactttt cagaaggaaa aaagtatcct ataactgaaa ataattttcg ccacaatagc 600
aaaatagaaa aaataaatct tcctgaaaca ttagcaagag attttagttt ttatttgttt 660
aaagagtata ggtggtggtt tcaagaaaag acttttgcta aaagcagcta gcaataagat 720
tatggctatc aaaccagttt ctttcataga aagtgaccat tccttgaagt gctactgttt 780
ttgaaagttt cttagaacag tctcagcatt ctaaacagtc tgtagttcta catatttgtt 840
gttgcaatct tgggcaggaa aatcactaat aacaggaaac agaggccggg cacggtggct 900

aacgcctgtc ttcccagcac tttgggaggc tgaggtgggc agatcacaag gtcaggagtt 960
tgagaccagc ctgaccaaca gggtgaaacc ccatctctac taaaaatann nnnn 1014

<210> 1008
<211> 2100
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2100)
<223> n = A,T,C or G

<400> 1008
gggagaagca gtgacccagt gccaggccca cctgctgata cccagccaag cgcttcacac 60
cctggtggtt agagtctgaa accggatgtt ccagggtcac gcagaacttg gaagacagag 120
aagttttgaa tggtgtacag acagaactac taacttcgcc aagaactaag gacacattga 180
gtgatatgac aagaacagtg gagatttctg gggaaggagg cccattggga atacatgtag 240
tgcccttctt ttcatctctg agtggaagga ttctaggact cttcatccga ggcattgaag 300
acaacagcag gtccaagcgg gagggactat ttcacgaaaa tgaatgtatt gtaaaaatca 360
acaatgtgga tctcgtagac aaaacctttg ctcaggctca agatgtcttc cgccaggcaa 420
tgaaatctcc aagtgtgctc ctccacgtgc ttcctccaca aaaccgtgaa cagtatgaaa 480
agtcagtcat tggctctctt aacatttttg gtaataatga tggcgttttg aaaaccaaag 540
tgccgcctcc tgtccatgga aaatcgggac taaagacagc aaatctcaca ggaaccgata 600
gtcctgaaac agatgcatca gcttccctgc aacaaaacaa gagtccccga gtaccaaggc 660
tgggaggaaa accatcctct ccctcactct cgcctctcat gggatttggc agcaataaaa 720
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gaaagtccaa ccacgaagct atggaaacac ttaggcggtc aatgtccatg gagggaaaca 1140
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cagagtgtgg ggcattttcc aagccatgct ttgagaactg tcaaaatgct gtaaccacct 1260
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aggagaagaa aaaggaaaag ggcaaattga aagtcaagga gaaaaagcgc aaagaggaga 1980
atgaagatcc agaaaggaaa ataaagaaga agggcttcgg cgccatgctg agatttggaa 2040
agaagaaaga ggataagggt ggaaaggctg agcagaaagg tactctgaaa cannnnnnnn 2100

<210> 1009
<211> 1331
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1331)
<223> n = A,T,C or G

<400> 1009
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cctgtcctta cagttgcgct gcccagggac cgatgttgcg cgaggaaaat gcgggacgcc 180
cagggccatt tctgagcagt ggaggtttca agtaatccac taacaaccag ttccaaattc 240
tgtcatcaaa tcctgtgctg ctgttcctcg tggtaataga tgcatattat ttcttttatt 300
taaaagaaat gaatgtgact agtattgcat taagagctga aacttggctt ttagctgcat 360
ggcatgttaa agtacctccg atgtggctgg aagcttgtat taactggatt caagaagaaa 420
ataataatgt taacttgagt caggcccaaa tgaataaaca agtgtttgag cagtggctcc 480
ttactgatct gagggatttg gagcatcctc ttttacccga tggcatttta gaaattccaa 540
aaggagaatt aaatggattt tatgctctgc agattaattc cttggttgat gtaagtcagc 600
ctgcatactc ccagatacag aagttgagag gaaagaatac aacaaatgat ctagttacag 660
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aatatgacac ttctcgaaac gagtttcaca cagtgttcct caatacactc cccagaaaat 1140
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ggaaaaaata cacaacattg tggaaggggc aacaaaaact ctcgtccacg aaatatagtg 1320
atannnnnnn n 1331

<210> 1010
<211> 3099
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3099)
<223> n = A,T,C or G

<400> 1010
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cgcgtgcggt ccacgcttta tcttgttcac cgggttgtct aggccggtca gacccgggtg 120
ggtatgaacc cggtggcatg cccgcgatag ggcccatact cgcggggaag ctccgagggg 180
ccacgtagat ctttatctta aaggtgttac tgcgatacaa tgtgttaaat ttcctaatat 240
ctctagatat gcaacatgtc ttgcttttca ggctaaggtc cagatgtgtc gtgagacagt 300
ggattttgta ggtcttctgc gaagtataga atattttgtg tgtgtactcg ctgtcgtctg 360
gatgatttat ttttgtggtt tttttgtttt gttttatagg tgtttagatg tagttcatca 420
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aaattttat gattgagaaa ccaacaacac caccacaan 3099

<210> 1011
<211> 3099
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3099)
<223> n = A,T,C or G

<400> 1011
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ggattttgta ggtcttctgc gaagtataga atattttgtg tgtgtactcg ctgtcgtctg 360
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aaatttttat gattgagaaa ccaacaacac caccacaan 3099

<210> 1012
<211> 1797
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1797)
<223> n = A,T,C or G

<400> 1012
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caacccatgg ttatttgtac cgtccaaagt gccacccatg aagtgtcccg ccaattcaca 180
agccgactta cttccagacc agtcatcctg cttctgcggg ccccagtgcc acggtactgt 240
cctgagtggt ttggaaggtg ggtagccgct gatacaggga caggcagatg tgcagacact 300
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<210> 1013
<211> 2288
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2288)
<223> n = A,T,C or G

<400> 1013
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gcgccctggg agagtcgctg acgggtggac tgacggaccg cctgaggacg gccggccagg 120
gcggtgaaag cgccagccct atggcgcggg tcgcgtgagg cggaaggccg aggacggccg 180
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ccccgttggc gtccgaatta gtcagtgtaa tctgcccagg agtattcggg aagcccaaaa 2220
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accaannn 2288

<210> 1014
<211> 852
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(852)
<223> n = A,T,C or G

<400> 1014
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gaagtacctg ggcctgaagc tgggacccgc actgaaactc tgctaccaca ttgacaaact 180
gaagcaagcc aagttctgac gtttttaaaa agacagaagc gaaacccaaa acaacagatc 240
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aaaattaaca gccacagaga cgtggtcttt ttataaaact tgtgaatctt tgccttttga 360
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caaaagcctg tgatttttaa catccctgtt atgctgattt ctctttaagt gggtcctatt 480
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acgccgtgca aaaaaaaaaa aacaaaacaa caatttttg ggcccaaaac aatcgaagaa 780
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gcttagannn nn 852

<210> 1015
<211> 2952
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2952)
<223> n = A,T,C or G

<400> 1015
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gaaatttccc aatcaattca ttccatcctt cccgccgcgg ttcccttaca acacccgttc 120
acccccccctt ttgtacccct ttccgttcct accttccttc ttcctgcccc cacaagttaa 180
ctttcgggcc agccccccaa ttttgttttg taaattttaa catgcattta ttaaatttat 240
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agcaagcctt caaacttcaa tcacagtatt ccataggcta tattttaagt ctattgcatt 600
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atttagaga catatgtgac tctttgagct tctgtcatcc aggtgccatt tctgatgcag 2640
cacatgtgca ctgaacagtt ggcaaagaag gaaaaagatt atggtagatg tatgtgcaga 2700
tagtctctct aatgatgtaa aatacgtcca gaaagaaagc agggctttgt tgtaaaataa 2760
aaaatttccc atgacttttt gttctttctg aatgtgattt gagcatgttt ctgtaaataa 2820
gaatatatac taacttatga tgtatataga acaaaaatag acttactcat caggaagtga 2880
tggaattatg cacataaatt ggcaatgaca tttgaaaaat ttaggatctg gttcccatct 2940
tcatctaaat gt 2952

<210> 1016
<211> 2040
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2040)
<223> n = A,T,C or G

<400> 1016
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cagccagtcc cgctgcacac gctcgcagtc tgtgggccct ccgggaggcg gcggaggtca 180
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tccaatggca aaaaatctca tgaaacatgg ctatccactt attatttatg atgtgttccc 420
tgatgcctgc aaagagtttc aagatgcagg tgaacaggta gtatcttccc cagcagatgt 480
tgctgaaaaa gctgacagaa ttattacaat gctgcccacc agtatcaatg caatagaagc 540
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cagcactatt gatcctgcag tttcaaaaga attggccaaa gaagttgaga aaatgggagc 660
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gataattatt atattattat aaatatagcc atattatttt gaattcaaat aaatttctat 1980
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<210> 1017
<211> 1566
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1566)
<223> n = A,T,C or G

<400> 1017
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gacttaaagg atgactcctg ttaagtttca ttatcctagt atcagcctga atggactagg 180
acacattttt attttaaagt ttgagctcta gcaatggagt cagacagcaa cacagcttgg 240
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ttcatactgg gcctctcagc aaacttctct tgctgacagg aattatttcc ctctatgatt 360
gtatttttaa gaggcgccta gattatgatc agaagttgca ccgagatgac agagaacatg 420
caaaaagcct gggacttcat gttaacgaag aggaacagga gaggccggtt ggagtgctga 480
cgtcttctgt ctatgggaag cgcatcaatc agcccattga gcccctaaac cgggactttg 540
gccgtgccaa ccatgtgcag gctgacttct acaggaagaa cgacatcccc agcctcaagg 600
aacccggctt tgggcacatt gctccatcct gaagcatccc cgtggcccac agggcatgtc 660
cgataccctg tggcctggca agtttgcaca gcgagaaggt ggcatctgga gcctcctttc 720
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atgaacacgt tagcagcccc cctcaggttg ctgggttagg agcctgacca acaacacctt 840
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cagtgc 1566

<210> 1018
<211> 1566
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(1566)
<223> n = A,T,C or G

<400> 1018
nctataggga gtcgacccac gcgtccggcc ctttcttctt ttaatctccc ttctgtcagt 60
tgattttcag gcaaccttca gaaggcagag aagacgtctg cccttggctc ctgcactagc 120
gacttaaagg atgactcctg ttaagtttca ttatcctagt atcagcctga atggactagg 180
acacattttt attttaaagt ttgagctcta gcaatggagt cagacagcaa cacagcttgg 240
ggagccacct ctgtcaacaa gggaggagaa agttgagaag tgccatgaaa atgtccctgc 300
ttcatactgg gcctctcagc aaacttctct tgctgacagg aattatttcc ctctatgatt 360
gtatttttaa gaggcgccta gattatgatc agaagttgca ccgagatgac agagaacatg 420
caaaaagcct gggacttcat gttaacgaag aggaacagga gaggccggtt ggagtgctga 480
cgtcttctgt ctatgggaag cgcatcaatc agcccattga gcccctaaac cgggactttg 540
gccgtgccaa ccatgtgcag gctgacttct acaggaagaa cgacatcccc agcctcaagg 600
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atgaacacgt tagcagcccc cctcaggttg ctgggttagg agcctgacca acaacacctt 840
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acctagaaga gttcatgcgg gaggcaatga gctgctggag cacaggcata acacaggtac 1500
ctgcccgggc ggccgctcga tttgctattg gagcacaacc tcttttggac catcaataca 1560
cagtgc 1566

<210> 1019
<211> 860
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(860)
<223> n = A,T,C or G

<400> 1019
nnnnnnnnnn ccgcatcctt tatattattt aaggttgttg gaaataattt ttatttaaca 60
gatataaaaa aaattcttaa catttacaaa ttgtacaaag attggtagct tttatatttt 120
tttaaaaatg ctatactaag agaaaaaaca aaagaccaca acaatattcc aaattatagg 180
ttgagagaat gtgactatga agaaagtatt ctaaccaact aaaaaaaata ttgaaaccac 240
ttttgattga agcaaaatga ataatgctag atttaaaaac agtgtgaaat cacactttgg 300
tctgtaaaca tatttagctt tgcttttcat tcagatgtat acataaactt atttaaaatg 360
tcatttaagt gaaccattcc aaggcataat aaaaaaagag gtagcaaatg aaaattaaag 420
catttatttt ggtagttctt caataatgat gcgagaaact gaattccatc cagtagaagc 480
atctcctttt gggtaatctg aacaagtgcc aacccagata gcaacatcca ctaatccagc 540
accaattcct tcacaaagtc cttccacaga agaagtgcga tgaatattaa ttgttgaatt 600
catttcaggg cttccttggt ccaaataaat tatagcttca atgggaagag gtcctgaaca 660
ttcagctcca ttgaatgtga aataccaacg ctgacagcat gcatttctgc attttagccg 720
aagtgagcca ctgaacaaaa ctcttagagc actatttgaa cgcatctttg taaatgtaca 780
ctccgcaatt ttcccaagat ctatgccata attcaatgaa ctccatgaca tgtttctttt 840
cgagcaacag caaacagtat 860

<210> 1020

<211> 1814
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1814)
<223> n = A,T,C or G

<400> 1020
nagacagtgt ccttttgcac aagagtctgt gttttcagcc tctgtataca attgagggca 60
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ctccataatc ggggactttt taaaaataag aaccagctca agtacatggt ttcatactgg 180
ggtttctgtc tccctagtgt tcccatccag attagcatga gtgcttggtt gacttcaaac 240
ctgtgtgtca atgcagaagg tctggagaca gcttcattct gtttatttat tttaattgtt 300
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aacccaattc agatccacca taggattctt tgactacata cctctgtcct agaagccgga 420
aaaggagtaa aaacacatgg gggagatcat gcctaaaagt aatatattca aaaccaccca 480
gcagtaggtt tgttaacaac aaactggatt ttaaaagttc tgccatgtta agtggccagc 540
atttcatgaa ggataacatt tttatacaga aggcagtcaa gctcaactca gagccatgga 600
ggcaagtacc ttaattagtt ttatatagtc acaacggaaa tatattttct agtgaattct 660
tattggaagc caggtctctc ctctcattag atcaaaaggg acttatgtac atacaacaat 720
tgaaagtgtt tgctcatgaa atcagttata aatatggtga atttttttctg gaccatagga 780
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gttagtcaga caagggcaca attacgttgg cacacactag gtcagttcac atttgttctg 1740
tgcagtgtat ccagagaaca tggtcacgca taacgtggag gaatatatgt ccgcatggag 1800
gaagatggnn nnnn 1814

<210> 1021
<211> 4126
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(4126)
<223> n = A,T,C or G

<400> 1021
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tttgggttat cagattccaa tcacgtttct tagcttttct tttttttttc caactccagt 180
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cgcagtgtct tgggcgctaa cggcggcggc ggccttgtgt ttagactcca gaactcccca 480

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aagcctctct tgaatgatgg ccagttcagg aaaacagaac aattttgcaa gagttttgaa 780
aatgggattg gaaaagaact gcatgagcag ctggttgctc tggacaaaca gaataaacat 840
acaagctaca tttcgggacc ctggtttgat atgtacctat ctgctcgaga ctccgttgtt 900
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<210> 1022
<211> 3605
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(3605)
<223> n = A,T,C or G

<400> 1022
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agggcacctg cgctcgggag gtttgggcgg cttggcgtcg gaggagagcc ccacccgcgg 180
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cctctagccg ggaggttgga ggagctgaaa acgccgcgga gccctcggcc gcccgagcag 360
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<211> 2514
<212> DNA
<213> Homo sapiens

<220>
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<223> n = A,T,C or G

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<210> 1024
<211> 1797
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1797)
<223> n = A,T,C or G

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<210> 1025
<211> 2345
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2345)
<223> n = A,T,C or G

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<211> 2841
<212> DNA
<213> Homo sapiens

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caccaggaag cggacgcgtg g 2841

<210> 1027
<211> 1091
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1091)
<223> n = A,T,C or G

<400> 1027
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&lt;210&gt; 1028
&lt;211&gt; 1731
&lt;212&gt; DNA
&lt;213&gt; Homo sapiens

&lt;220&gt;
&lt;221&gt; misc_feature
&lt;222&gt; (1)...(1731)
&lt;223&gt; n = A,T,C or G

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&lt;211&gt; 1455
&lt;212&gt; DNA
&lt;213&gt; Homo sapiens

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<211> 2157
<212> DNA
<213> Homo sapiens

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<210> 1031
<211> 2190
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2190)
<223> n = A,T,C or G

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<210> 1032
<211> 877
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(877)
<223> n = A,T,C or G

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<210> 1033
<211> 1603
<212> DNA
<213> Homo sapiens

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<210> 1034
<211> 2934
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2934)
<223> n = A,T,C or G

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gtggcagtgg gacaggaagt aggcgcgggc cctcaggttc tccctatcga agcggtctat 2820
ggagatagtt ggatactcgg ccatctgccc ctcgaaagaa ctcatagcgc cgccgatccc 2880
agagtccggg acccctaacc gcagctgagc ctcgccgata caccgcagct cnnn 2934

<210> 1035
<211> 389
<212> DNA
<213> Homo sapiens

<400> 1035
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ggatgattca gaggaagtag aaataaacaa ggctttacag agaaagtcca gaggagttta 120
ttggcactct gagctacaaa aaggcttgga gagtgagcca acatcaagaa ggcaatgtag 180
aaattctcca ggggagagtg aggagaaaac cccatcccag gagaagatga gtcaccagag 240
ttgtgcagtg tgtgggaaaa tcttcaacaa tagctcccac ttcagtgccc accgaaaaac 300
ccacactggt gaaaagcctt acaggtgttc tcactgtgag agaggcttca ctaagaactc 360
tgccctcacc cgtcatcaga cagtacctg 389

<210> 1036

<211> 1871
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1871)
<223> n = A,T,C or G

<400> 1036
nnnnngccct cggccttgtc ccgggatcgc tccgtcgcac ccaccatgat ggaagacgac 60
gggcagcccc ggactctata cgtaggtaac ctttccagag atgtgacaga agtccttata 120
cttcagttgt tcagtcagat tggaccctgt aaaagctgta aaatgataac agagcataca 180
agcaatgacc catattgctt tgtggaattt tatgaacaca gagatgcagc tgctgcatta 240
gctgctatga atgggagaaa aattttggga aaggaggtca aagtaaactg ggcaaccaca 300
ccaagtagcc agaaaaaaga tacttccaat cacttccatg tgtttgttgg ggatttgagt 360
ccagaaatta caacagaaga tatcaaatca gcatttgccc cctttggtaa aatatcggat 420
gcccgggtag ttaaagacat ggcaactgga aaatccaaag gctatggttt tgtatctttt 480
tataacaaac tggatgcaga aaatgcgatt gtgcatatgg gcggtcagtg gttgggtggt 540
cgtcaaatcc gaaccaattg ggccactcgt aaaccacctg cacctaaaag tacacaagaa 600
aacaacacta agcagttgag atttgaagat gtagtaaacc agtcaagtcc aaaaaattgt 660
actgtgtact gtggaggaat tgcgtctggg ttaacagatc agcttatgag acagacattc 720
tcaccatttg gacaaattat ggaaataaga gttttcccag aaaagggcta ttcatttgtc 780
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tcttgctgtt cagtatttta actcactgtg tttttaaaag agcaaaaaag ggaggatcgt 1560
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gaggtggacc acatttgaag tcagcagaga aaaagtgtga tattcagaag aaatgcgtga 1680
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actgaagttt tgcaccctaa aaaaggaaca gcattgtttg agttacttga gcaaatgttg 1800
gtggtccacg ttaagacata tttttaaaac ttccaaaagt gtcgattatt aaaattgtag 1860
tattttacat n 1871

<210> 1037
<211> 597
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(597)
<223> n = A,T,C or G

<400> 1037
nnnnggccct cgaggccaag ttttttttata tttaaaaatt caaaaagcct aaaccagtac 60
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tgggtccttg aagttctaga agggtggttc tttcctgggt gattttgtcc cccaaaagat 180
atttggcaat gtctggagac atttttactg tcatgactga gggaagtgga gtgttactat 240
ctctactggg tagaagccag cgatgctgct aaacatctcc ccattacaaa gaattatctg 300
gtccaagatg tcaatagtgc aaaggctgaa aacagtttta gaggggtctg tgtacacatt 360
tatttcatct caagagtttg tcctataact tacttcaaaa ctaataagct tacagagact 420

taaggatttc tgcagaagca tcctgcacac agcagatgct taacagaaaa ctaaggaaaa 480
aacaattatg tatagttact gccaattttt agcagaactc tgcaatgaat gacccccatt 540
actaaatttc aacttaggaa atacatctct agttaagatt ttgggggctg gatctan 597

<210> 1038
<211> 3753
<212> DNA
<213> Homo sapiens

<400> 1038
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tctgttccgc aggatggggt ttgttaaagt tgttaagaat aaggcctact ttaagagata 120
ccaagtgaaa tttagaagac gacgagaggg taaaactgat tattatgctc ggaaacgctt 180
ggtgatacaa gataaaaata aatactacac acccaaatac aggatgatag ttcgtgtgac 240
aaacagagat atcatttgtc agattgctta tgcccgtata gaggggggata tgatagtctg 300
cgcagcgtat gcacacgaac tgcccctgct gctggcccgc aggcttctca ataggtttgg 360
catggacaag atctatgaag gccaagtgga ggtgactggt gatgaataca atgtggaaag 420
cattgatggt cagccaggtg ccttcacctg ctatttggat gcaggccttg ccagaactac 480
cactggcaat aaagtttttg gtgccctgaa ggggagctgt ggatggaggc ttgtctatcc 540
ctcacagtac caaacgattc cctggttatg attctgaaag caaggaattt aatgcagaag 600
tacatcggaa gcacatcatg ggccagaatg ttgcagatta catgcgctac ttaatggaag 660
aagatgaaga tgcttacaag aaacagttct ctcaatacat aaagaacagc gtaactccag 720
acatgatgga ggagatgtat aagaaagctc atgctgctat acgagagaat ccagtctatg 780
aaaagaagcc caagaaagaa gttaaaaaga agaggtggaa ccgtcccaaa atgtcccttg 840
ctcagaagaa ggatcgggta gctcaaaaga aggcaagctt cctcagagct caggagcggg 900
ctgctgagag ctaaacccag caattttcta tgatttttc agatatagat aataaactta 960
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gaaatatttt ggaaaagcaa aggagttgac aggtttttt ctccaagaaa acaagtgtaa 1080
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atcccattaa tttgggggta tgttctttat cttgaagtat caccatgaga agaaattcat 3120
tcagttgaag aagtgcccat gccgactttg cttctcccaa ggaaacctgg ccatctttgt 3180
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gaagcgcttg ttccatttga catttcacaa cacctggtag attatcccaa atccctaaat 3420
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tcttacagtc ctttcctctg cataattctg tataggtaga atactgcaca tatataatcc 3600
agcttccaac aaaaaccact aaccaggaaa agaaaagata tttcatccgc acatatgaga 3660
agcgagcctg gaggtaatag ggtttcctta gccaggcccc cggacagaga ctcctcgcca 3720
tggtaatcac acatcgccgg acgcgtgggt gac 3753

<210> 1039
<211> 1938
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1938)
<223> n = A,T,C or G

<400> 1039
nnactgccag aaccccagga cctttttcag gcctcacaga tgaagtttga agattttcaa 60
aaagatctca gaaaactgaa gaaagacttg aaagcctgtg aagttgaagc agggaaagta 120
taccaggtct cctcaaaaga gcatatgcag cctttcaagg aaaacatgga acaatttatt 180
attcaagcca aaattgacca agaggcagag gaaaattcac tgacagagac tcataaatgc 240
tttttggaga ccacggcata tttcttcatg aaaccaaaac ttggagagaa ggaggtgtcc 300
ccaaatgctt tcttcagtat ctggcatgaa ttcagctctg actttaaaga cttctggaag 360
aaagagaaca aacttcttct acaagagaga gtaaaagaag ccgaagaggt gtgtagacag 420
aagaaaggaa aatcacttta taaaataaaa ccaagacatg actctggaat taaagcaaag 480
ataagcatga aaacttgaac aatgaaaagc agaatgaaaa tgagtcattg caacgacttt 540
cacaaaattc agctgacctg agagtgggag ggaaactacc gtcattctgc tcatgtttct 600
tcttgacctc ttgcataatc tttttgtttt ctagacagtt cactaattgt tgaatttact 660
gtatatcata taaaaatgca acgtactaac cagtggagaa tttgacacct tttcttttg 720
taaaagttta tggtattata ccgatagacc aaaacagcat gtgtaagagg cagtatctgc 780
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ctccataact atgtatttgt gaaagaaaat ggtcattttt tttactgaag tcatataatg 1080
acttgggtca gctcgtaatg cattgtgatg gttttgtatg agctgggtgt ttttttccat 1140
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aataaaagaa taaagatact tgcaaaggaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1560
aaaaaaagaa aaaaccaaac caaacaagaa agaacatacc acaaaaaaga cagcaccaaa 1620
aggtagaaca aaaaacacta acaacaagta tcaacaaaaa gacgtgaaac aaaaagaaga 1680
aacccaaaaa gagaagaaac agaagaggac acaaatacaa caaacacaca accaagcaaa 1740
acaagaaaga ccaaaagaaa caccggaaaa caacaccaac aaacaccaca aaacaacaaa 1800
ccagaaacca aacccgacaa caaaccaaca acaacagcaa aacacagaaa aaaacaagcg 1860
caaggacaaa acagagagaa acgtgagaag ccacacagaa aacagaaaca agaaaataaa 1920
atcacgagan nnnnnnnn 1938

<210> 1040
<211> 1450
<212> DNA

<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(1450)
<223> n = A,T,C or G

<400> 1040
nnnnncagag cccttttttt gggtctttag gggggtgcc ccccccggaa tttcggccgg 60
aggggacaga aaccgccccg gtattggtat taagaaaacg gttcaacggg gcggtgtccg 120
actccggctc ggggcccccc ctcgctccac aaggctggat acaggtggga ccacgcactg 180
cctaggattt catttaacag ggacctgtta gaatagaaag agcttcccca gggcactcat 240
tttaaaataa ttataactta aattattact aatgtgatta tatcacaaag gcagaaagaa 300
ttaatgtttt cctcctttca tgaaccttgt aaggctagtg ttgagtggct tacaaatgtc 360
atataatgga ctgtaaatca tctgccatat tgatcaatca tgtttattta aggttttctt 420
aacattagag atttttaatg ggagtataaa attagtaaac aaccatttca ttttttctct 480
cttcctattc tagccacata agccagttta atccatgaca cagatttcag ctgtaatttg 540
caaaacaatc caagagctac cacagtcccc aaaactacag aaaactgcca tccacaaata 600
aactaccaag gtaaatgtaa atacagcgtg gttctaattt tctttcacac aatcccagac 660
aaccccaaat aactttataa ataccttatg aaaaaaagca atttaaaaac ctatcaaatc 720
tatttaaaat atataaatgc agacctctca aatttccttc aatcaggcca gaaattatca 780
caaaaattat aatcacagtt acaaacagaa tgagtggaat gtttgtaagt ttaggacaac 840
caaaaaagcc ccatgtaact ttttaaaaat ataatcattc actcaaatat actgtaaata 900
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caataaccat ccaggctacc aagatcattg taacactgat gccattatca ccagagggtc 1260
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gttctgaggn 1450

<210> 1041
<211> 2778
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2778)
<223> n = A,T,C or G

<400> 1041
nnnanattga ttaatgttgc cgaatactca cagttactta tgaatgctga tcaattaagt 60
cttatcattt gaaagcaaac ccagtgctat caacgcagag ttgccattac ggccgggggt 120
tatattctgc tatgcaatca tcagatcatg aggaataaga atgagacaat ctttactacg 180
atgttcagac ttatcatgat ggacccccact tcagagaagt taatggctct tgagatttcc 240
aggcaaattt catctgctca tatctggttt ctgtgcatca ggagtgagac tgaagttcta 300
gggcgtggct tgtctgtcga ggcccctctc tactggaatg aatgaatgta aagaatgggt 360
gttaagaggt ccctggagct gccttcaaca taaggggtcc tagagggtgc aagactcatc 420
aagaaccagt ttaccccatg caataggact gctaaagcca gagaaatgga caaagcccag 480
ttggaactga atttgaatct cataaagcta caggtgcatc tgagagcagg ctcagtggtg 540
aagatcaaga tagcccggta aagccctgct tgggcttttt agcctcagcc acatggatac 600
ctctcagttc ctgccattaa caatattcat ggaaaataca gcactgtgtc tttcacatgc 660
tccactctgg aaggtttatg ctctgagctc aggatagttg gggaacacat ttttaaatct 720
tggttttaaa caaaaagaga aatttattaa aatggagata taattgtgca tggtacatat 780
atttctgaaa agttatgtat aaatcaatta tgttaaaagc gccagaagtt actttttata 840
agtgaactat tacgaataat ttcataaagc aaataaccac ctctagctta tctgtcaggt 900
atatcagaat tctcatatat catagtctca taagacttgg ttaaagcaga tctatcttag 960

gtaggaaaaa atagtaatcg attatactta gctgctttta tctgtagtgt gggtgacttt 1020
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cagtattaga aaaactgcat gtatgatttt aatagaaatg ctttttataa agctaacatt 1380
cagaaatggg ataaaatgca ataacatctt tcctttgtgc attaaattcc cttctaattc 1440
taaaattgac atttgtatct tgcttaggat ttaacattgt taattataat acttttaatg 1500
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aagaacaaag aagaacaaca cacacacaac agaaaagaaa agagaaaaac gaagagagag 1740
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acaacagaag aagaagggaa agatagcaaa gagcaacgga aatacgagca gaagacggaa 1860
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acaacaagaa ggagagagaa gaacagagaa gaaagagcac gacggaaagc agaagagggg 2640
aacaggcaaa aaaaaagacg agaaagagag agagaaagca agaggaactg agagggaaaa 2700
ggagaagcga agagaggaca caagagagct aagaagaaaa gaataaaaga ggaaaagaaa 2760
cgggaactga acaaccnn 2778

<210> 1042
<211> 610
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(610)
<223> n = A,T,C or G

<400> 1042
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gcgcgcaggg cggtcctcgg gtccgcggag gctgcgctct gcgccatgaa aatgacagat 120
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<220>

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<211> 1057
<212> DNA
<213> Homo sapiens

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<211> 4465
<212> DNA
<213> Homo sapiens

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<223> n = A,T,C or G

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<211> 1066
<212> DNA
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<220>
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